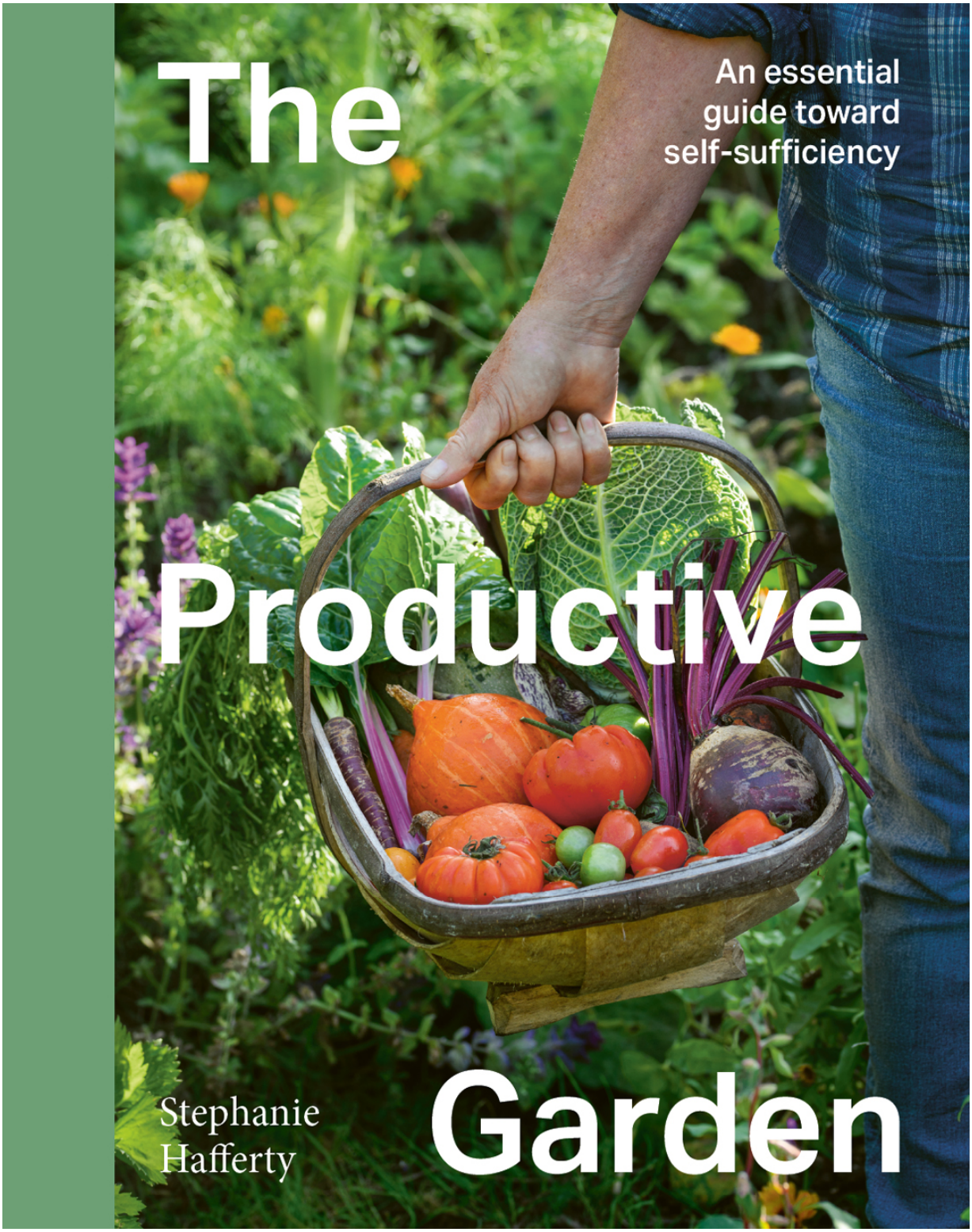
The Productive Garden

An essential guide toward self-sufficiency

Stephanie Hafferty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INTRODUCTION

What is a productive garden? Put simply, it is a growing space that produces crops to harvest year-round. It can be large or small, or just a few pots on a windowsill or balcony. It is a way of participating in a more sustainable and self-sufficient lifestyle in the day-to-day reality of modern life. Even the smallest spaces can have a big impact.

This book covers the skills you need to create a productive garden, whatever the size of your space, without spending a lot of money, and with biodiversity and the environment at its heart—from the soil to harvesting the crops. It also explains what to do with your harvests, covering a wide range of homesteading skills.

I wanted to write the book to inspire people to grow some of their food, to feel confident in their ability to garden productively, to be more self-sufficient and self-reliant, and to light a spark to encourage readers to find out more. In gardening, "every day is a school day"—there is always something new to learn.

I hope the book will be a companion on your journey to homesteading and growing some of your own food. I hope it becomes dog-eared, marked by soil-stained fingers and recipes splashed from preserving your harvests.

My homestead

I have always felt a connection with the outdoors. From an early age I loved to spend time outside. My great-grandad Ernest Stead had a community garden space near to his terraced house in Bradford, West Yorkshire, where he grew vegetables and kept chickens. So I knew that people could grow some of their own food.

In my late teens I discovered a book in a charity shop which set me on the journey of growing and foraging edibles. Published in 1955, *Home-Made Country Wines* by Dorothy Wise opened my eyes to homebrew. I started to grow marrow squash for rum and explored the local lanes in search of seasonal fruit to make wine. I think I was the only student to arrive at my university digs with several carboys of homemade wine.

I started gardening on a small scale in Northamptonshire as a young English teacher, growing herbs and a few tomato plants. “Growing my own” changed from a desire for booze to a concern for health, taste, and also economy—to help out with my food budget. An allergy to many domestic cleaning products meant I wanted to learn about more environmentally friendly alternatives. Discovering traditional recipes in books inspired me to start making my own cleaning and body care products.

Armed with a copy of Geoff Hamilton’s *Organic Gardening*, my urban veg patch grew after my daughter was born in 1994 and I wanted to feed my children as healthfully as possible. By the time my third child arrived in 1999—now living in rural Wiltshire—our small homestead included an expanding vegetable and herb garden, a rickety greenhouse, chickens, and ducks. Inspired by permaculture techniques (see here), I gardened organically, learning as much as I could from books and *Permaculture* magazine.

The need for more house space meant a move to Somerset where property was cheaper. We bought an ex-council house on the edge of a market town which came with a 30 × 100-foot backyard and a greenhouse. I started a new garden, which gradually grew in size as my children got older. Now a single mum of three with a small income, I seized the opportunity to grow more food to support our budget by taking on a nearby community

garden space. This was supplemented with foraged foods from the local hedgerows.

Struggling to make ends meet while self-employed, I applied for a job at a local market garden picking salad. On my first day, a crew from BBC *Gardeners' World* was there to film. I stayed for two and a half years, learning no-dig gardening and commercial growing skills. This was an unexpected career change; I never thought that my love for growing would be transformed from a hobby to paid work. I started writing for gardening magazines and speaking at local events: my teaching skills proved very useful here.

Next, I was asked to create a veg garden on a large private estate: Hadspen. This led to other work, including creating a bar garden for a local restaurant (the homebrew book came in handy), and running the kitchen garden for Sir Cameron Mackintosh and Michael Le Poer Trench for three and a half years. At the same time, I helped to set up a new no-dig market garden, where I also worked as a plant-based chef for day courses, and ran a small kitchen garden for a local restaurant. I kept writing articles and books, became a garden consultant, and continued to teach gardening and homesteading skills at events.

In 2021 I moved from Somerset to rural Wales. I found a three-bedroom cottage in a village with around half an acre of garden and a tiny greenhouse, and started creating the new homestead almost immediately. At the same time, I was project managing the creation of a show garden that I had designed for the RHS Hampton Court Palace Garden Festival. This meant moving to London for almost a month in late June, so at home I made and planted up a few vegetable beds, starting the rest when I got back.

On a tight budget and almost entirely by myself (with some help building the hoop house), I have gradually expanded the growing areas to increase productivity and biodiversity, adding a pond (my son Ruairi dug that), a wide range of wildlife habitats, and a lot of soft fruit. I was delighted to welcome BBC *Gardeners' World* in August 2022 to film. In 2023, I started to run courses and workshops here.

A garden is never "finished." This year's plans include creating more under-cover space to extend the growing season, making more vegetable and herb beds, and expanding the range of perennial edibles.

The self-sufficient garden

What is a self-sufficient garden? This may conjure an image of an off-grid house set within several acres of productive gardens, perhaps with animals and beehives too. A lovely idea, but not realistic for most of us. Fortunately, creating a more self-sufficient lifestyle is actually about making practical, affordable and, importantly, fun changes to our lifestyles in our homes and communities.

Community is important. Few of us thrive in social isolation. Becoming more self-reliant can be a social experience, sharing knowledge, skills, surplus, and work within our local and wider communities, including online communities too.

A more self-sufficient lifestyle

What working toward self-sufficiency means will vary, depending on personal choices, family and work commitments, resources, physical mobility, and location (space available, climate). It is about simplifying life in a practical way, making the best choices for you and your situation.

A more self-sufficient lifestyle doesn't need to be on a large scale. It can be as simple as a few pots on a balcony or a couple of beds in a back garden producing some seasonal food and herbs, and learning new skills such as preserving and making your own cleaning products or homemade salves.

Whatever the size of your plot, the garden may include edible crops for year-round harvests, perennial and annual herbs, edible flowers, and fruit. There may be homemade habitats for wildlife: bug hotels, wildlife pools, and log piles for creatures to live and hibernate in. Ideally, it would include somewhere to sit and soak up nature. Inside the home, you may find jars of homegrown preserves, bunches of herbs drying for teas, and bottles containing infusions for cleaning the house.

The style might be cottage-like or have a more modern, streamlined feel, but it will have an emphasis on sustainability: repurposing existing items rather than buying everything new. This "less is more" attitude reduces consumption and helps the environment as well as saving money.

Self-reliance and resilience

One of the most exciting and pleasurable elements of creating a more self-sufficient garden is learning new skills. This connects knowledge from the past, handed down through generations, with skills and knowledge from the present. It's not about rejecting all aspects of modern life—far from it.

For example, in the past many gardeners instinctively nurtured the earth using mulching and minimal cultivation techniques, but most of us learned to garden by digging. These days, we better understand how soil works, partly due to scientists using more powerful microscopes which reveal the diversity of the soil food web. We now know about its diversity and ability to store carbon, and that it needs to be protected or it will be lost. So we use natural organic gardening methods handed down from generation to

generation, but with the greater knowledge about how soil works that we have today.

Increasing resilience in the garden means adapting to a changing climate and different weather conditions while making our own piece of earth productive and welcoming to wildlife. The skills learned in the garden, along with homesteading skills (preserving, natural home and body care, and so on), make us more resilient as people too. They are empowering, enabling us to be more resourceful at home and within our communities.

Learning how to make natural cleaners from homegrown plants saves money and reduces plastic and other waste, as well as reliance on store-bought products. This helps the environment by reducing demand for commercial products with a large carbon footprint along with reducing the spread of harmful chemicals.

Growing some of your own food, along with plants to create homemade products, gives you more control over what you eat and how you live. It reduces the amount of chemical residues in our diet and encourages more seasonal eating. Seasonal produce is fresher, tastes better, encourages a more diverse diet, and is more nutritious. Often imported produce is picked before its peak and refrigerated for long periods of time. Seasonal food can also have other benefits. Winter foods are usually starchy, providing energy in the cold, and turning into hot, filling dishes. Summer foods tend to have a higher water content, are lighter, and more likely to be enjoyed in cooling dishes.

Take pleasure from growing what you can. Few people can grow everything that they need or desire, and it is fine to buy items that you can’t grow. Shopping at local farmers markets or farm shops helps small businesses and the local economy, but this is not an option for everyone.

Mental and physical benefits

The importance of spending time outside in nature for our mental and physical health is widely known. Being outside among plants, listening to the sounds of nature, can significantly boost our well-being and lift the spirits. In addition, growing some of your own food and household products can help to enhance well-being through increased resilience and improved food security.

Working with the rhythms of nature is lovely. It helps us to feel joy in the changing seasons, appreciate icy winter days (almost) as much as long, sunny summer days, because we know the importance for nature of slumber during the cold, short days. Even on gloomy days, being outside for short periods can help boost well-being.

Gardening is a very physical activity, a full body workout. It improves flexibility, balance, and bone health, and strengthens muscles while burning off calories, increasing cardiovascular health and boosting the immune system.

Permaculture

A key influence underlying everything I do in the garden is “permaculture”. It is more than a way of gardening in tune with nature. Permaculture is a means of living sustainably, designing a lifestyle that works in harmony with the environment, reducing dependency on the limited resources of our planet. It can encompass how we design our homes, gardens, schools, businesses, communities, and more. The word *permaculture* is a merging of *permanent* and *agriculture*. While the term began in the 1970s, the techniques used in permaculture have their roots in indigenous cultures across the world and have been practiced for millennia: looking at how nature works and adapting it according to one’s situation.

There are many different ways of “doing permaculture”. I first came across some of the techniques in the late 1980s at music festivals, and it has had a huge impact on my gardening and homesteading journey. Over time I have adapted the practice to suit my needs and situation. Some people choose to follow the ethics and principles quite strictly; others like myself prefer a more relaxed approach.

Permaculture’s ethics and principles are not strict rules, but rather guidelines meant to inspire and enable people to build more resilience and sustainability into their lives. There are three ethics: Earth Care, People Care and Fair Shares. They are not unique to permaculture—far from it. They form the foundation of many communities and ways of living lightly.

The three ethics of permaculture

— *Earth Care* means to look after the planet, including all living species, soil, water and air.

— *People Care* looks after the needs of people. These include community, happiness and pleasure, as well as access to healthy food, clean water and air, and good health.

— *Fair Shares* is about living lightly, trying not to use more resources than it is fair to take. It is about limiting consumption and, if possible, creating a surplus to be shared.

The twelve principles of permaculture

Permaculture has twelve principles, created by David Holmgren and Bill Mollison. They may look rather daunting but are all practical and sensible.

1. **OBSERVE AND INTERACT**
   Spend time observing the environment, reading the landscape as much as possible before making decisions: for example, when considering where to site a garden building, tree, or new vegetable bed.

2. **CATCH AND STORE ENERGY**
   This can include larger-scale projects such as solar panels; on a smaller scale it means composting, storing rainwater, encouraging

biodiversity, seed saving, and preserving the harvest.

3 OBTAIN A YIELD

This is not just about growing a harvest, but also includes creating biodiversity and looking at the multiple uses of plants apart from food. That could include medicinal use, dyeing, feeding pollinators or feeding the soil with green manures.

4 APPLY SELF-REGULATION, ACCEPT FEEDBACK

Look at ways of creating a plot with elements that do not need a lot of input. For example, growing a green manure under established perennials reduces the need to weed, which saves you time. Accepting feedback doesn't just mean listening to others, but also looking at what the garden is telling you. Is it asking for more water or more feeding?

5 USE RENEWABLE RESOURCES AND SERVICES

Use what you have already rather than buying it, such as compost or mulch. It can also mean taking advantage of renewable energy such as solar or wind.

6 PRODUCE NO WASTE

This principle is widely practiced among gardeners and homesteaders. It is about creating a healthy ecosystem in which as much as possible is reused, with the minimum amount of waste, and includes composting at every opportunity as well as looking for ways to reduce food waste.

7 DESIGN FROM PATTERNS TO DETAILS

This involves looking for patterns in your plot, including weather, trees through the seasons, the wind, and where the sun falls at different times of the year, and using this information when planning your garden.

8 INTEGRATE RATHER THAN SEGREGATE

This is about creating a strong community both on a human scale, such as within our neighborhoods or workplaces, and also within the garden, such as increasing biodiversity to create a healthy plot.

9 USE SMALL AND SLOW SOLUTIONS

This encourages working at a slower pace and with nature. In the garden it could mean starting with just one or two beds rather than feeling that you have to take on an entire plot makeover, using a lot of resources and becoming overwhelmed.

10 USE AND VALUE DIVERSITY

In the garden, this encourages us to create a space that is the richest ecosystem it can be. This principle is also valid in workplaces and communities.

11 USE EDGES AND VALUE THE MARGINAL

This explores looking at the margins, whether in the garden, in nature, or in human society. In the garden it includes accepting weeds in the wild edges as part of embracing a wider ecosystem.

12 CREATIVELY USE AND RESPOND TO CHANGE

Things can go wrong in the garden, whether the result of a storm, a drought, or an unexpected increase in pest populations. Gardens are constantly adapting and changing, and this principle encourages us to respond to change resiliently, looking at ways to adapt and move forward.

Permaculture zones

Permaculture zones are a way of helping to plan what to grow, or put, where. They are based on the frequency of use, accessibility, and how often we need to maintain, with zone 1 being closest to the home. For example, culinary herbs used frequently in the kitchen would ideally be in zone 1, or zone 0 on a windowsill, whereas apple trees which require infrequent maintenance or picking for most of the year could be farther away.

This is a guide—where things go will vary depending on practical considerations, including distance from your main growing space. If you're growing in a community garden space, then the plants in zones 1 and 2 are likely to be there.

Zone 0: The center or heart, usually the home.

Zone 1: Closest to the home and visited most often—the back garden or balcony—including annual veg, greenhouse, propagation space, herbs, water storage from buildings, composting systems.

Zone 2: Plants needing less maintenance, greenhouses, ponds.

Zone 3: Main crops, orchards.

Zone 4: Wild areas outside your plot for foraging, such as hedgerows or parkland.

Zone 5: Wilderness including forests, national parks, beaches.

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Part One

In the Garden

CREATING A PRODUCTIVE GARDEN

Starting a productive garden can seem rather daunting, but it is the beginning of a fantastic adventure. The key is to start small. Don't try to grow everything all at once. Do one project at a time, whether that is making a new bed or building a composter. Creating your edible space one step at a time makes it manageable and fun.

I have been growing for years and have created many different edible gardens in all kinds of situations: it's my job. Even so, when I arrived in Wales at my new home, I started the garden one bed at a time. This was a realistic time commitment, and meant that I did not feel overwhelmed. I started the first bed on March 31st and by the end of August had four large beds, and a few smaller ones, filled with fruit, vegetables, herbs, and flowers.

It has been, and continues to be, an absolute joy watching the garden grow, develop and change.

Planning for year-round harvests

Planning and preparation are the key to year-round harvests. This does not have to be complicated.

First of all, step into your growing space, whether it is a balcony, community garden space, or home garden, breathe in and look around. Start observing and getting to know the space. Discover what the garden has to offer, and how you can work with nature to use it.

A gardening journal or folder

It is helpful to have one book or folder where you keep all of your gardening notes and plans, or a file on the computer if that's your preference, so that everything is at hand during the year. A sprial-bound week-to-a-page journal or notebook is ideal. An "any year" journal is helpful because you can use it for several years and build up a picture of what works and when. Add envelopes (for those notes scribbled on scraps of paper so they don't get lost), paper clips for attaching plans, seed packets and designs, sticky notes, and a pen to make a garden planner that suits you.

Alternatively, print some free calendar templates and make your own folder with a hole punch and some scrap cardboard for the covers. Decorate it with inspirational magazine photos and drawings. Personalize it with quotes, stories, poems, moon phases, growing tips, and a wish list.

Next, add any holidays and other times when you'll be away from home. This is so helpful for planning, reducing the likelihood of sowing seeds only for them to become leggy and die while you're away. I know this from experience! Sow those seeds after your trip or, if you're away for a long time, consider buying plug plants to arrive after your return.

A plan of your growing space

This can be as simple or ornate as you wish. It doesn't have to be to scale, just an idea of how much space you have for growing. Remember to include pots, wall planters, and other growing spaces too.

The plan can be drawn, made using photographs, drone images or with computer software. Be as creative as you wish. I like to make sketches, adding permanent features including sheds, greenhouses, compost bins, and firewood storage.

Note any areas that are especially shaded or prone to flooding at different times of the year. Think about nearby trees: will their canopy create a lot of shade, or will they absorb too much water during a dry summer? I grow a lot of plants underneath mostly apple trees, creating a mini edible food forest using annual and perennial plants. As long as you choose varieties that do not mind some shade and are drought tolerant, it is surprising how much can be grown beneath a tree canopy.

If parts of the plot are prone to flooding annually, consider whether drainage may be needed, such as digging French drains or building swales to direct the flow of the water.

Your plan may include recreational spaces such as play and entertaining areas, paths, space for animals and, if the plot is where you live, where you'll dry your laundry.

Climate and location

One of the best ways to find out about the growing conditions in your area is to chat with experienced gardeners. There are also websites with helpful regional statistics and USDA plant hardiness zones. However, they are not updated enough to keep up with the changing climate and they overlook microclimates, so use these as a general guide only.

Microclimates are areas where growing conditions differ from the rest of the garden. Within even the smallest plot there will be variations caused by proximity to buildings, overhanging trees, or exposure to the wind. They can include damp shaded areas, a dark fence, or a wall that absorbs the warmth of the sun, and frost pockets where frost is more likely and lasts longer. You can create your own microclimates using crop protection such as cloches, fleece plant covers, and cold frames.

It is helpful to find out the average summer and winter temperatures, rainfall, and humidity for your area, and first and last frost dates: when frost is likely to strike in the fall and should have ended in the spring. This

information helps you plan when frost-sensitive plants are safe to be planted out.

Observe how sunlight moves through the garden, and how it changes throughout the year. Are there areas that might be prone to pollution, such as locations near to a busy road? Are all areas accessible with a wheelbarrow?

Aesthetics

Happily, no two gardens look the same and there is no “right” way to create your productive patch. Gardens reflect our personalities, interests, family situation, pets, lifestyle, and income. Enjoy creating a growing space that reflects your style. I love how gardens evolve and change over time.

How it looks will depend on location, resources, seasons, and time available. Think of urban community gardens created entirely in raised beds on concrete; containers filled with produce placed around the town center; pots on balconies and windowsills; or vegetables and herbs planted in flower beds. As a student I once made a micro garden in recycled containers on the flat roof outside my kitchen window.

Time

Be realistic about how much time you have. Most of us have many other commitments away from the garden, including work, families, buying groceries, socializing, and sleeping. If your growing space is away from your home, you’ll need to factor in travel time.

Take into account shorter winter days. In the summer it may be possible to garden in the early morning and evening, but in the winter, when full-time work usually begins and ends in the dark, you may only have a few weekend hours for gardening.

Plan what you want to grow

This is one of my favorite lists. I spend many an hour happily going through seed catalogs selecting varieties of everything I would like to try. On paper, I often choose enough seeds to cover several acres, so I have to go back through those lists and cross things out. Part Two of this book takes you through the process of deciding what to grow. If you’re just starting out, choose plants that grow well in your environment, because it increases the chances of success.

Think about how many of each plant you want to grow, how big they’ll get, and what protection they might need, and use this information to sketch

out your growing plan for the year. Decide what will follow fast-cropping plants to make the most of your space and really extend the growing year.

Once you've decided what you're growing, add the sowing dates to your journal.

Garden zones

It can be very helpful to grow plants that are used most frequently, such as culinary herbs and salads, close to the home. But compromise may be necessary depending on your situation. Ideally, I would have put my hoop house close to the house to make it more accessible in the winter, but the only space large enough was the farthest away from the back door.

Polycultures

I love to combine flowers with vegetables in the garden. Growing with polycultures means mixing things up and ensuring that no one plant dominates. It is a tradition that goes back centuries. Growing in a polyculture looks beautiful, increases biodiversity, is excellent for wildlife, and is one of the key tools for creating a really productive garden.

Small paved areas

For balconies, roof terraces, or small courtyards, containers are ideal because they can be easily moved around and are light enough, and small enough, to carry through doorways and up staircases or via elevators. Using trellises, poles, and other structures to create vertical growing areas can also significantly increase the growing space. For balconies or roof gardens, weight is a crucial issue and it is important to find out how much weight the balcony or roof can safely bear.

Wildlife areas

The tiniest plot can include areas for wildlife. You can even make a wildlife-friendly garden in a large plant pot, complete with habitats and water. Including wild areas in your plans so that wildlife will thrive is a key step toward creating an ecological balance. This can look beautiful, and doesn’t mean just leaving the garden to become overrun with natural vegetation.

Rules and regulations

Check whether there are rules or bylaws that affect you. Some housing associations have restrictions on what can be grown and also, strangely, whether you can put up a clothesline. Community garden rules vary from place to place and can include restrictions on planting trees, keeping poultry, and keeping the plot weed-free.

Creating your growing beds

There are many different ways to make a new bed for growing food, and no one size fits all. You might be starting with a few small containers, one raised bed, or perhaps you have a whole plot or home garden to grow in. Your new productive garden begins here. It is always a good idea to mow or trim weedy areas where you're making new beds.

Whatever the size of your growing bed, you will need to consider the resources available to you. How you start a new edible garden depends on:

— **What you are starting with:** This could be a weedy lawn, a plot that is more or less weed free, land on a slope or filled with rubble, or a space with no soil at all.

— **Resources available:** These may include compost, wood chips for paths, lumber for making frames and compost bins, greenhouses, plants and seeds, people to help.

— **Budget:** How much you can spend.

— **Accessibility:** Who will be using the garden? Raised beds with high sides and wide paths well mulched with wood chips can greatly improve accessibility for people with mobility issues.

Compost and cardboard bed

You will need:

— brown cardboard or newspaper
— watering can
— compost or mulch

1 It is always a good idea to mow or strim weedy areas where you're making new beds.

2 Spread brown cardboard (tape and staples removed) or thick layers of newspaper over the weeds and grass.

3 Temporarily secure the card with timber to keep everything in place. (These wooden sides can either be removed once the bed is finished, or left if you like the look.)

4 Water it well (if the weather is dry) and cover with at least 2 inches of compost or other mulch.

5 Tamp it down with your feet by walking all over the bed. (This is called the “no dig dance”!)

6 The bed is now ready for sowing and planting. To plant something deeper than the mulch layer—for example, potted plants, potatoes, or fruit bushes—just make a hole through the cardboard and plant into the soil beneath.

Different ways to make new beds

Very weedy ground, using compost and cardboard
See here for a guide on how to make. I mostly use beds without wooden sides, but if making a new bed temporary wooden sides can help to hold it all together. Thin layers of wool fleece mulch (see here) under the compost work in place of cardboard but only for larger plants. This takes a long time to decompose and smaller plants and root vegetables will struggle to get through. For paths, use cardboard and wood chips for mulch. Cardboard on its own is far too slippery when wet.

Very weedy ground, using black plastic sheeting
Although covering the ground with plastic sheeting (polyethylene) is not good for soil health, as a temporary mulch this is one way to make new, weed-free beds. Spread black plastic (preferably salvaged) over the bed and weigh it down. Depending on the time of year, it can take around 3 to 6 months to kill off the weeds beneath; then remove the plastic. The bed should be ready to use.

During the growing season, plant potatoes, zucchini, or squash through holes cut into the plastic to gain a yield while clearing the bed.

Weedy ground, no compost or budget
If you have an area of weedy ground such as a lawn that you wish to turn into a productive edible kitchen garden, but have no compost or budget, then dig it over —once.

Make the beds and start growing. The digging will bring up weed seeds so be prepared to hoe regularly. Make compost bins (see here) and when you have enough compost, start mulching the beds.

The soil life will gradually recover within the beds, and you won't need to dig again. During the first year, try to avoid walking on them. It is fine to walk on no-dig beds, but walking on dug soil can cause compaction problems.

For larger plants and fruit bushes, mulch the soil with grass clippings or chop and drop to protect it from heavy rain and hot weather.

Mostly weed-free ground
Hand weed and hoe the area, add a little compost to the surface and the bed is ready. There is no need to use cardboard. If the ground is filled with rubble or stones, or is so stoney that it is impractical to dig them out, or if you have no soil at all, then make raised beds using wood or metal sides. Fill these with compost, or for robust plants such as raspberries or rhubarb make a hugel-type bed. (This is a mound made from logs, branches, leaves, and other plant materials, covered with a layer of soil or compost). Containers are another option. I have grown a multilayered forest garden on concrete using different sizes of containers.

Ground on a slope
Most sloping ground is fine for making beds. But sometimes the ground is so steep that it is impractical to grow on it without creating terraces or swales first. Creating terraces is very skilled work and it is advisable to get advice from a professional.

Raised beds
I mostly avoid having sides for my beds as it is much cheaper and uses fewer resources. Raised beds with sides can also create a habitat for slugs, snails, rodents, and other pests. However, there are many reasons why people like to create raised beds:

— Raised beds can be good for wheelchair users or people who have difficulty bending or kneeling. Thicker sides offer a convenient place to sit and place tools.
— They are useful if you have very poor soil, or want to create beds on top of solid surfaces such as concrete or paving.
— Wooden and metal-sided raised beds can look stylish and tidy. Some people enjoy the look of defined edges.
— Sides can make it easier for children to know where they can tread, and prevent dogs and other pets from leaping about on the plants.
— To securely attach permanent row covers or cloches.

Growing under cover

One of the key ways of extending the growing season, and making a productive garden, is by growing under cover. Protecting plants from the worst of the wintry weather enables year-round harvests. I have a hoop house and a traditional greenhouse, which help enormously, but it is also possible to grow in a variety of situations using homemade protection, as well as growing in your home.

Choosing a greenhouse, hoop house, or similar structure depends on your personal circumstances. Traditional greenhouses are usually (but not always) made with entirely recyclable parts—wood or metal and glass—so they are a more ecological option in that respect. My greenhouse is small but came with the house and is a fantastic space for propagation and growing tender plants. It is easy to attach gutters to the frames for water harvesting.

Greenhouses

Traditional hard-sided greenhouses can be a big financial investment unless you buy one second hand. It is well worth looking on local resale websites where they are often offered for sale. There are some fantastic homemade greenhouses made from old doors and windows, even incorporating stained glass (look online for tutorials and inspiration).

Greenhouses benefit from greater insulation than hoop houses, and so are warmer in winter. Ventilation is achieved by windows and vents. Some have automatic vents that open and close as needed. Ready-made greenhouses and kits often include plastic glazing (instead of glass) made of

polycarbonate sheets with double-wall construction (also called thin-wall) for insulation. Depending on its size, you may need planning permission for a greenhouse structure.

Here in the UK, visiting old estates once owned by landed gentry, within their walled kitchen gardens you'll often find the ruins of the glasshouses. Here ancient heating systems using wood and coal, or sometimes animal manure, enabled the gardeners to grow pineapples and other exotics—a sign of great wealth. I have worked in grand houses where the greenhouses were warmer than my home! On a more domestic scale, it is rarely affordable to heat the whole greenhouse, but it is easy to create warm growing spaces and microclimates within it (see here).

A huge greenhouse would be fantastic but is completely out of my budget. A more affordable option for a large under-cover space is a hoop house. They come in a variety of styles and can be almost any width or length that you need, adapting to the size of your garden.

Hoop houses

Most hoop houses (also called tunnel greenhouses or polytunnels) comprise a strong steel frame covered with protective polyethylene plastic sheeting. Choose the best quality plastic that you can afford. With care and regular maintenance, the polyethylene can last for at least 15 years. Always keep a roll of polyethylene repair tape on hand, so that any small rips can be sealed up before windy weather causes serious damage.

The large, dry space inside a hoop house is a boon during wet weather. (I use mine for drying laundry.)

Reinforcements such as wind braces further increase the stability of a hoop house in stormy weather. Bracing can also be incredibly useful for supporting tall plants and for suspending hanging planters and shelves far out of the reach of slugs or mice. Adding wood or aluminum side rails to the hoop house during construction makes it easy to attach gutters for water harvesting.

Cheaper hoop houses, often covered with very thin, green polyethylene, are certainly more affordable but are more prone to storm damage and can blow away—I have seen one blowing down a main road during a storm.

The covers often only last a couple of years and let in less light than clear plastic. They will need extra protection from wild weather, ensuring that the cover cannot be blown off and that the frame is very securely fastened to the ground. This could require the construction of extra supports.

Choosing a straight-sided rather than curved tunnel greenhouse significantly increases growing space within the structure. Mine has base rails that ensure the polyethylene can be fastened as tight as a drum, which helps to reduce potential storm damage. You do not want the polyethylene to flap around: it is far more likely to rip.

My hoop house also has base plates that securely fasten the structure to the ground, crucial here on a Welsh hillside. Once it had been constructed, I buried the “skirt” of excess polyethylene in the ground, a technique known as trenching. This provides greater stability for the structure, and also helps to reduce weeds, and prevent some pests from creeping in.

Choosing where to site a hoop house, unless you have a lot of space, usually depends on where it will actually fit. Here, there was only one space large enough to accommodate the structure, so that is where it went.

On a hillside, it is very beneficial if the greenhouse is situated with the slope rather than across it.

Ventilation is crucial for plant health. I had the doors made with the top one-third covered with a fine mesh and the rest with polyethylene, which creates a flow of air year-round. If very low temperatures are expected, I cover the doors with a polyethylene curtain for the duration. For ventilation and ease of access, choose the widest doors that you can. During summer I leave the doors open all of the time, hanging bird netting or wire mesh across the frame to allow insects in but keep out unwanted intruders, such as magpies and squirrels.

Save the polyethylene offcuts

Unfortunately, due to the shape of the tunnel, offcuts are unavoidable. Fortunately, they fold up neatly, are easy to store, and very durable. I saved all of mine and have found so many uses:

- Making covers for small cloches.
- Making a mini tunnel inside the hoop house for very tender plants.
- Making covers for cold frames.
- Repairing broken greenhouse glass and covering gaps.
- Covering seedlings while germinating.
- Covering the ground for solarization to kill off weeds and green manure crops.

Side ventilation is not usually a good idea for home growers in a temperate climate. This is more suitable for really huge hoop houses and warmer areas. If you do have side ventilation, make a roll-down polyethylene “skirt” to cover it up during cold months.

Larger hoop houses may require zoning permission. Usually a residential-size hoop house (up to 14 feet wide) does not require permission, but there are regulations for wider tunnels. Other considerations include proximity to roads and other buildings. It is worth checking with your city’s building or zoning office before buying. I have visited some amazing homemade hoop houses, including some constructed from old trampoline frames, lumber scraps, and PVC plumbing pipes. Look online for inspiration.

Mini greenhouses

Small greenhouses can be an ideal solution for tiny gardens. These are available in a wide range of sizes, a compact 19¾ × 17¾ × 62$^{1}/_{5}$ inches (W×H×D), to larger step-in styles (56⅓ × 28¾ × 76¾ inches). Usually constructed with two, three, or four tiers, a metal frame, and a plastic cover that zips open and closed, these are affordable and easy to pack away when not in use. However, they are liable to flying away in windy weather, so they need a sheltered spot and extra securing (such as guy wires), being tied to an immovable object, or weighted down at the base with heavy objects. The covers are often of a poor quality and degrade after a few years. Even though replacement covers are available, it can be wasteful of plastic.

They are ideally situated under cover—to create a microclimate inside of a hoop house or greenhouse—where protection from the elements expands their life considerably. You can make your own version using wood or metal shelving covered with polyethylene from large items such as mattresses or hoop house offcuts.

Cloches and cold frames

Cloche hoops can be used anywhere outside and also in greenhouses and hoop houses for extra protection. Covered with polyethylene, mesh, fleece, or netting, they are ideal ways of extending the growing season. I have harvested bowls of fresh salads in the depths of winter from my garden plot, after snow, protected by a simple cloche covered with two layers of garden fleece.

It is easy to make your own cloche hoops from polyethylene pipe, wire, bamboo sticks, or old tent poles. Simple cloches can also be made from a piece of corrugated plastic folded into a tunnel shape or old window frames constructed into a triangle shape and secured at the top. Chicken wire or hardware cloth bent into shape also works well, creating a sturdy frame for covering.

Traditionally some gardeners would have used small individual glass cloches, and these are still available to buy. If you have skills with stained glass making, you could create your own from offcuts. To make a less

beautiful but free version, cut the base off large plastic water cooler bottles. There are various styles of cloche available to buy, with different widths to suit your bed sizes, mostly constructed from metal, although there are also some made from bent bamboo and wood. These are lightweight and easy to use and store. Use fleece, netting, enviromesh, or polyethylene to create the appropriate cover for your crops. Some cloches are rather flimsy "caterpillar" style made from polyethylene, but these usually last for little more than one winter and are therefore best avoided, although the internal hoops can be reused should you have a broken one. I found mine discarded in a community garden bin.

Netting and mesh are easy to stake down and secure using tent stakes, stones, or clips. Polyethylene is more likely to fly off in the wind. Secure using strong string stretched over the top, fastened to the ground on either side with tent pegs. Alternatively, fasten the plastic sides to wood strips and secure those to the ground.

Cold frames are box-shaped structures with sloping clear glazed lids and wood or metal frames. The sides may be clear or made from wood or brick. They are very useful for hardening off plants grown under cover before planting, growing salads through the winter and warming the soil underneath. As with all under-cover spaces, ventilation is important. There are cold frames to suit any budget, but a simple and quick way to make your own is to place an old window on top of cinder blocks. Always ensure that glass cold frames are out of the way of children and pets.

Gathering materials

Whether you are starting out in a new garden or expanding your growing area, having a list of all the materials you need (or just want!) is helpful, especially if you're on a budget. Knowing that you'll need some large sheets of clear plastic for cloches, or twiggy sticks for peas, makes it far more likely that you'll notice if someone is giving them away.

Plant supports

Many plants need some support to help them grow, whether to climb like beans and peas or to prevent wind damage. In recent years, the summer months have been far windier than usual, so bean supports have to be sturdier and brassicas such as Brussels sprouts and broccoli in more exposed locations may need a stake to prevent them from being blown over.

One of the main reasons why I chose my current home was the hedgerows around the garden were already filled with hazel and other trees perfect for coppicing. These provide enough supports for garden structures, bean poles, and stakes. Most people don't have a handy hedgerow and need to look farther afield. Check in your neighborhood for people who are pruning trees or cutting back bamboo, or ask on social media.

In smaller gardens, you can grow small clumps of hazel or similar long-stemmed shrubs for coppicing. Three or four plants in bucket-size containers (one hazel per container) can provide some beautiful sticks each year. It is important not to coppice hazel every year, so cut each plant every 3 years.

Use vines from plants such as wisteria, grape, ivy, and honeysuckle to weave through plant support frames: they look beautiful and save on string. The vines also make excellent natural frames for seasonal wreaths and other crafts.

Natural plant supports will last a few years if stored carefully; when they reach the end of their supportive role, they can be turned into compost or mulch, or get piled up in "dead hedges" and wildlife habitats.

Other free options include using gazebo and tent poles, plumbing pipe, and old curtain rods. I've seen remarkable bean frames made from old bicycle wheels. Use pieces of stock fencing and similar heavy-duty wire fencing materials to create pea frames and arches for growing beans and squash.

It's not always possible to find or forage for plant supports. There are also plenty of options to buy, including different lengths of bamboo and specifically designed wood and metal structures.

Crop covers and fleece

Crop covers (also called row covers or plant covers) are protective fabrics used to extend the growing season, create a microclimate and protect plants from frost, pests, heavy rain, hail, and wind. They are usually transparent or semi-transparent to let light and moisture through. Some are designed to spread across the plants, resting gently on their leaves, while others need to be held up by cloche hoops and frames.

They are usually made from synthetic fabrics and with care can last for years. As with all plastic-based fabrics, there are concerns around microplastics and plastic waste, so if you do choose these options try to get good-quality fabrics that will last for many years. Very cheap fleece and netting often barely survive a season. Some manufacturers are developing natural fiber crop protection from wool, cotton, and other biodegradable materials, so I hope that soon there will be more sustainable products to choose from.

It is very important to make sure all meshes and nets are securely fastened with no gaps, so that wildlife cannot become trapped or tangled up.

HORTICULTURAL FLEECE

Fleece, also called garden fleece, horticultural fleece, or plant cover, is a lightweight fabric usually manufactured from polypropylene. It is warm, light, and airy, has good insulation properties and comes in different thicknesses. I use 1-ounce fleece, which is strong and long-lasting (some is around 12 years old). Over winter it can help to protect against frost, and in the spring a layer of fleece will enable plants to go out and get established earlier, extending the growing season. You can either spread it over the plants or use it with cloche hoops. Fasten it with clips or weight it down with stones.

Fleece is also useful for wrapping up plants against the cold, and as an extra protection in greenhouses/hoop houses during very cold spells.

For a homemade alternative, use sheets of cheesecloth or other finely woven fabric such as bed sheets. These will be heavier when wet, so are best used over cloche hoops.

INSECT NETTING

This provides a physical barrier to keep insects off plants. It is a flexible mesh or screen with tiny holes that are too small for insects to get through. The netting needs to be securely fastened over cloche hoops so that there are no gaps. It comes in a variety of mesh sizes (the size of the openings), so choose the right size for the insects you want to keep out. Mesh also makes an effective windbreak and protects against hail and heavy rain.

BUTTERFLY NETTING

This is a fine mesh netting with a hole size of around $^1/_5$ inch that protects against cabbage white butterflies and moths. It needs to be suspended on cloche hoops higher than the plant foliage, so that none of the netting is touching; otherwise, the butterfly will be able to stick her rear though the hole and lay her eggs on the leaf.

BIRD NETTING

Bird netting can protect against pigeons and other birds, and will deter deer, rabbits and squirrels to a degree. It is often used over fruit cages. A more expensive but longer-lasting alternative is to use fine wire mesh.

Very twiggy branches can also help to deter birds from peas, young beet leaves, and other edible plants they like.

POLYETHYLENE COVERS

Although you can buy sheets of polyethylene specifically for making row covers, pre-used clear polyethylene is so ubiquitous that it really is worthwhile asking locally for free material. Old greenhouse plastic, clear shower curtains, and large plastic protective sheets from items such as mattresses are all ideal. Avoid flimsy plastic—it will shred.

SHADE CLOTH

During periods of very hot sunny weather, shade cloth creates a cooler microclimate, which helps plants stay hydrated and healthy. There are different kinds of shade cloth available to buy, but it is easy to make your own. Utilize gazebos, garden umbrellas, or an old bed sheet to create a shaded area. Move potted plants into shadier parts of the garden.

I don’t use greenhouse shade paint, a product that is painted on to the glass in spring and washed off in the fall, because here in the UK, with many cloudy days, sunlight is to be cherished. Not using it saves time, money, and resources. If the weather is very hot and sunny, I use a sheet to shade the greenhouse. You can also buy greenhouse shades and blinds if your budget allows.

WIND PROTECTION

There are many possibilities here, including permanent solutions such as planting a windbreak of trees and hedges. This is often not practical in smaller, residential spaces or plots, where a good solution is to make a sturdy frame of climbing beans and to plant more wind-sensitive plants behind it.

A simple and free way to create a permanent, wildlife-friendly windbreak is to construct a “dead hedge”: a pile of twigs, logs, and other woody materials secured in place by stakes. It will gradually break down over time, feeding the soil life beneath, and create a superb habitat for a wide range of wildlife. Birds such as wrens, robins, and blackbirds can forage and hide from predators in the tangled branches, amphibians can shelter, and small mammals can nest and raise their young in the spring. It will be a magnet for insects and create a perfect environment for many kinds of fungi.

A dead hedge need not be made all at once. It is a project that can be added to throughout the year. It sounds a bit gloomy, but can be a beautiful structure. For color, grow annual edible climbers over it, such as nasturtiums, runner beans or peas.

Tools to buy, share & make

It is very useful to have the right tools at hand; some are good to own but others you'll only need occasionally so are worth borrowing. Almost everything can be bought secondhand. Some of the tools mentioned here are sharp and care should be taken when transporting them if you garden outside of your home.

Essential tools

STRING

Essential for multiple gardening tasks, always keep a ball of string in your pocket or gardening basket. Choose natural fibers if possible (plastic string sheds microplastics).

HAND TROWEL

Useful for weeding, planting, potting, harvesting, and sowing. My favorite is copper, which keeps a very sharp edge and slides into the soil beautifully, but stainless steel trowels are excellent too. Some gardeners prefer to use a long-handled trowel, which makes reaching into beds easier.

HORI HORI

This Japanese tool is exceptionally good for weeding (fantastic for removing bindweed and quackgrass), planting, cutting, and harvesting. There are various designs to choose from, including some with a serrated edge or depth gauges. Sometimes called a weeding trowel, it resembles a dagger and usually has a protective holster. Add one to your present wish list.

POCKET KNIFE

I always carry a folding knife in my pocket when gardening to cut string, prune, remove side shoots, and harvest vegetables or flowers. Choose a knife with a locking blade for safety, and store it along with a sharpening tool. Get into the habit of cleaning and sharpening your knife after each use.

SPADE

A strong spade is essential even in a no-dig garden for digging holes to plant trees and bushes, slicing through perennials to split and create more plants, harvesting deep-rooting vegetables such as parsnips, or lifting compost into a wheelbarrow. Also used to dig wildlife ponds and swales, or trench hoop house plastic.

LONG-HANDLED HOE

The best tool for routine weeding, this will become a regular gardening companion. The long handle is back-friendly, reducing bending, and enables the gardener to reach right across beds and paths. Hoes are ideal for cutting down most green manures before sowing or planting. There are various styles to choose from:

— **Dutch hoe:** A fixed sharp blade which slices through weeds (ideal for weeding gravelly paths).

— **Oscillating or stirrup hoe:** A sharp blade that you move forward and backward, cutting just below the soil surface (the kind I use most).

— **Razor hoe:** A razor-sharp curved blade that is drawn toward the gardener, cutting through weeds. Its small blade makes it easy to move in densely planted areas.

HAND HOES

Useful for more delicate weeding between established plants, my favorite hand hoe has a curved blade that is sharp on each side and can be used in either direction. Hand versions of the razor hoe, often called a weeding hoe, are excellent too.

COMPOST FORK

A strong, long-handled fork is ideal for turning and moving compost, manure, leaves, and straw. Try farming supply stores for the most affordable.

RAKE

Perfect for spreading and leveling compost and other mulches, and for gathering leaves from lawns.

HAND PRUNERS AND SNIPS

Used almost daily for pruning, harvesting, cutting flowers, clearing plants, and tidying up. Choose a well-made, strong pair of hand pruners.

Long-nosed pocket snips are a handy addition to your gardening tool kit. Not as strong as hand pruners, they enable careful snipping of herbs, edible

flowers, micro leaves, and vegetables.

BUCKETS

Garden workhorses with multiple uses including collecting weeds for composting, harvesting potatoes, carrying water, and mixing compost. Lidded plastic buckets are often available free from restaurants, or ask friends with animals (many feeds come in large buckets). For a plastic-free option, metal and enameled buckets are beautiful and can sometimes be found secondhand.

DIBBER

A dibber (or dibbler) is a very old-fashioned tool, usually made from a tool handle or similar piece of wood, tapering the end to a point. Use it to make planting holes and shallow trenches for seed sowing. A pencil can be repurposed as a tiny dibber, also called a widger, for transplanting seedlings.

WATERING CAN

Watering cans come in a wide range of sizes and with different kinds of nozzles or spray heads. They are heavy when filled with water, so choose the size that works best for you. Metal watering cans are beautiful and last for decades, but are heavier than plastic.

WHEELBARROW OR CART

For larger growing spaces, a wheelbarrow or garden cart will be in regular use. They have different capacities, so choose the size that is most comfortable. Traditional wheelbarrows have one wheel at the front, but many gardeners prefer carts with two or even four wheels, which are easier to handle and less prone to tipping over. For smaller spaces, there are compact wheeled garden caddies and folding wheelbarrows.

CRATES, TRUGS, AND BASKETS

Used for harvesting, gathering, storing, and tidying, many suitable containers can be found for free from grocery stores. Supermarkets are an excellent resource for strong cardboard boxes to store apples and vegetables.

Good to have

PRUNING SAW

A worthwhile investment for tree maintenance, it is also handy for cutting through very woody vegetables such as sweetcorn and brassica stems. Choose from folding- or fixed-blade saws.

GARDEN HOSE

If you have a large area to water, a hose can save lots of trips with watering cans during dry weather.

TELESCOPING SHEARS OR LOPPERS

Really useful if you have trees, hedging, shrubs or other tall plants to maintain.

COMPOST SCOOP OR SOIL SCOOP

A curved tool about the size of a trowel but with a much deeper bowl, it lifts compost into seed trays and pots—not essential but lovely to use. Alternatively, a cleaned-out can makes a good scoop.

Items to borrow and share

Expensive and not in regular use, these are ideal to borrow from a tool exchange, community garden association or other local co-op.

LADDER

For maintenance of trees and sheds and other garden structures, I prefer a tripod-style ladder, which is very stable.

SHREDDER

Fantastic for turning woody garden trimmings into chippings for paths, mulch, and compost.

STRING TRIMMER OR LAWNMOWER

For maintaining grassy areas. Scythes are a fantastic option if you have the appropriate training.

CHAINSAW

Should only be used when wearing appropriate personal protective equipment and after relevant training.

Essential gardening clothes

There are some clothes that make gardening comfortable and safe in all weather conditions, such as waterproof pants and jackets, strong weatherproof boots and rain boots, thermals in cold areas, and hats for summer and winter protection. My top two, though, are the following.

GLOVES

I love to feel the soil between my fingers, but gloves are needed during cold weather or when working with prickly plants. Ideally, have a selection including waterproof, insulated and thick thorn-proof gauntlets.

ARM PROTECTORS

These thick fabric sleeves with elastic at the wrists and upper arms help to protect against thorns and also contact with plant materials such as parsnip leaves that can cause itchiness or allergies.

Water harvesting

I try to collect as much water as possible to have plenty in reserve for times of drought. Harvesting rainwater from roofs and other surfaces is better for garden plants (they prefer it to tap water) and also reduces my water bill. Ecologically, it is beneficial because it saves energy, involves none of the chemicals used in water treatment, and makes the most of a free resource. It's a good idea to have as many containers as you can for harvesting and storing water, whether it is a small pond, a rain barrel, or a 275-gallon IBC tote (intermediate bulk container).

Rain barrels

Rain barrels usually come with a tap and lid, and optional extras including a stand (so that a watering can fits underneath the tap) and a rainwater diverter, which is attached to a downpipe and diverts water into the barrel. Once the barrel is full, the water flows back down the pipe into the drain. If you have the space, you can buy (or make) connectors to link two or more rain barrels together.

You can make rain barrels from all kinds of objects, including old trashcans, wooden barrels (if they are still watertight) or an old bathtub with the plug in, for a practical dipping pool/pond. Make your own stands from cinder blocks or similar. I have fashioned a stand from an old car rim.

COVERING RAIN BARRELS

It is important to have some kind of lid to prevent evaporation, keep leaves and other debris out, and importantly stop children, pets, or wildlife from falling in. A fitted lid also discourages insects such as mosquitoes from laying their eggs.

Alternatively, make a lid from metal mesh: this deters most of the above, except the mosquitoes (although looking on the bright side they are a valuable food source for other creatures).

USING FENCING AND WALLS

This method involves fixing guttering with downpipes to fences and other vertical spaces. It does not harvest as much water as a roof, but is relatively simple and will fill water butts during heavy rain.

MULTIPURPOSE RAIN BARRELS

Rain barrels are permanent features, so I like to make them as multifunctional as possible. Everything can easily be lifted off for cleaning inside the container.

— Hang planters from the tops or around the sides to make them more attractive and productive.
— Grow plants on the lid.
— Attach bird feeders, wildlife water baths, or bug hotels to the containers to increase biodiversity in your garden. Make sure they can't fall into the container. If the container is raised from the ground, you can create a wildlife habitat underneath too.

Harvesting water from hoop houses

There are several ways to harvest the water that pours down the sides of hoop houses. If a side bar is in place already, fasten a rain gutter to the side and connect it to a water collection container. For longer tunnels, some upright supports such as wooden stakes help to strengthen the gutter and reduce movement in severe weather, which could damage the plastic. Place supports every 4–5 feet.

Alternatively, make a frame along the side of the house using lumber, with regular supports to keep the structure in place. Fasten a length of gutter to the frame using gutter hangers, and attach this to the polyethylene with strong waterproof tape. Close one end and fix a drainpipe to the other, leading into your rain barrel.

Water harvesting and irrigation

Using water efficiently includes using methods of harvesting rain which suit your plot, and also effective irrigation techniques.

Making sloping surfaces on top of composting bins can provide a way of collecting rainwater and help to keep the compost from becoming too soggy. Simple wooden bins made from pallets are excellent because it is easy to fix a water harvesting roof and gutter to them. A roof needs to be weatherproof and allow water to flow into the gutter. On top of our firewood storage here we use a large sheet of pre-used plastic fastened to a

wooden frame. Corrugated roofing or a sheet of marine plywood are other possibilities for roofing.

An olla (pronounced “oy-yah”) is a porous vessel, normally made from terracotta, which has been used to irrigate crops for millennia. Ollas are found in China, Africa, the Middle East, South America, and India: a global method for saving water and time. They are a simple and effective way of slowly releasing water into the soil. The olla is buried so that only the top is visible above the surface. Tiny pores in the terracotta allow water to be slowly absorbed into the soil when it is dry. The terracotta is so effective and water-efficient that when the soil is wet, during rainy weather, the water stops seeping out until needed again by the plant roots.

The vessels are made with a round bottom and a tapered neck, rather like a wine bottle top. Once buried in the soil, with a little of the neck above the surface for ease of refilling and to prevent soil from tumbling in, the tops are covered with a lid to prevent evaporation and insects falling in.

If you live in an area with hard winter frosts, remove the ollas in the fall to prevent cracking.

Harvesting from compost bins

You will need:

— a gutter, gutter downspout, two gutter end caps, and gutter fasteners
— drill, screws, string, and tape
— wood for the structure

1 Attach the downspout near one end of the gutter, then add an end cap to close off the gutter at the end just beyond the downspout. Add an end cap at the other end of the gutter; this will be the top end.

2 Fasten the gutter to the top of one of the sides of the compost bin so the downspout end is slightly downhill from the top end and in a suitable place for placing the rain barrel underneath.

3 To ensure the maximum amount of water possible pours into the gutter, the roof must slope toward the gutter; the front supports should be slightly higher than the rear supports.

4 Fasten the roof securely to the structure, so it will not blow away.

5 If you wish, attach some edging to the sides of the roof to reduce water run-off and for greater stability.

Two-pot olla

You will need:

— unglazed terracotta plant pots, whatever size is appropriate for your growing space, two of the same size per olla
— weatherproof glue or silicone caulk
— something to cover the holes at the bottom—old wine cork or pieces of pottery
— a lid for the top—plant saucer, old plate from the kitchen, or piece of stone
— a funnel for filling the olla

1 Choose which pot is going to be at the bottom and seal the hole completely using an old cork cut to fit, or by gluing a piece of broken pottery or similar over the hole. Fill any gaps with silicone caulk so that the water oozes slowly out of the tiny holes in the terracotta and not quickly out of the hole at the bottom.

2 Glue two pots of the same size together—with one pot turned upside down onto the other to create a barrel-like vessel—and leave to dry somewhere protected from the weather. This could take up to 24 hours.

3 Bury the olla in the soil leaving a small amount of the top above the surface. Make sure the sealed base is at the bottom.

4 Place the funnel into the hole at the top and fill with water. Cover with a saucer or similar.

One-pot and saucer olla

You will need:

— a terracotta plant pot
— a saucer that fits snugly over the top
— glue and something to cover the hole at the bottom

Cover the hole at the bottom as for the two-pot olla. Place the pot in the soil, leaving a little above the surface. Fill with water. Cover the olla with the saucer. Check every week or so to see whether it needs refilling.

IT STARTS WITH SOIL

One of the most remarkable changes in gardening in recent years has been a greater understanding and celebration of the soil beneath our feet. It is fantastic how our knowledge of the marvelous nature of soil is increasing every year, as more research is undertaken and powerful microscopes reveal the complexity of life underground.

It is impossible to see most soil life with the naked eye, apart from worms and other larger soil-dwelling creatures. But the wonderful thing is that once you start to care for soil, the biodiversity above it starts to increase. It becomes obvious that the soil is thriving: plants are healthier; fungi emerge and release their spores; wildlife increase in number as more food and shelter become available.

You can even smell the soil. Step out into a garden after rainfall and breathe in the delicious earthy fragrance of healthy, damp soil. Known as petrichor, and produced by microbes, it lifts the spirits.

Soil is amazing

All life on our beautiful planet depends on the soil. Respecting and caring for our soil is key for the well-being of our gardens, our environment, and ourselves too. Many creatures rely on the soil to live out all or part of their lifecycles—for food, hibernating, or shelter. Looking after soil has wide-reaching benefits for everyone, and is sustainable and simple to do.

An incredible ecosystem

Imagine the most diverse ecosystem you can think of. Is it a rainforest or jungle filled with plants, animals, and colorful birds? Actually, it is beneath your feet. More than half of the species in the world live in the soil, including 50 percent of bacteria, 85 percent of plants, and 90 percent of fungi, plus earthworms and some species of insects, reptiles, and mammals.

It really is extraordinary, but without powerful microscopes we cannot see most of them, which is most likely why soil has long been seen as inert: just a mixture of sand, silt, and clay. This soil life performs many vital functions, including creating a healthy soil structure, feeding plants, regulating the flow of water, decontaminating pollutants, and recycling decomposing matter.

The soil microbiome—the microorganisms that inhabit the soil—are beneficial for our health too. There are many similarities between soil and gut microorganisms, and ingesting some can help boost our gut health, aid digestion, strengthen immunity, and improve mental health. I am not suggesting that you head outside with a spoon and start munching soil! There will be traces of microorganisms on your hands when gardening, and on homegrown produce which has been rinsed rather than scrubbed or sanitized.

Soil which is undisturbed (not dug) sequesters carbon, capturing it in the ground. Plants and soil absorb around a third of carbon dioxide emitted by humans, locking it in the soil where it can remain for centuries.

Soil organisms recycle nutrients, breaking them down, and making them accessible to plants. Keeping the ecosystem intact increases glomalin, a

substance produced by mycorrhizal fungi which acts like a glue, keeping soil particles together. This helps to increase water retention and reduces erosion. Problems such as flooding caused by excessive rainfall are reduced too, because the microscopic channels created by soil life are undisturbed and remain intact. (This can't prevent flooding in areas which are prone to being submerged. If your plot has areas that are under water annually, it may need drainage, swales, or raised beds.)

Scientists are continuing to make new discoveries about soil and the extensive subterranean network of soil fungi, flora, and fauna, which is connected to many plant and tree roots. This has many benefits for a healthy soil, including attracting beneficial organisms, increasing resistance to pathogens, and increasing the access to water, nutrients, and minerals.

No-dig methods

One of the simplest, most effective, and sustainable things you can do to protect your soil is to grow using no-dig methods. This accessible and adaptable way of growing is so straightforward that often people are surprised it works so well. I think we have been conditioned to think that for something to succeed it needs to be complicated, or require specialist tools or years of training, or be some kind of battle with nature.

No-dig growing involves disturbing the soil as little as possible by not digging it over every year, instead adding mulches annually to feed the soil life. Of course, gardeners will most likely need to dig sometimes: to plant a tree, harvest potatoes, or trench in the polyethylene for a hoop house. But there are no benefits to digging over the garden every year as many of us were taught to do, and many good reasons not to do it.

Digging, whether by hand with a spade or mechanically with a rototiller or plough, breaks up the intricate networks created by the soil life, kills a lot of the organisms including beneficial mycorrhizal fungi, and releases carbon which has been locked in the soil. Carbon combines with oxygen in the air to produce carbon dioxide, a greenhouse gas that is heating the planet.

Although not as destructive as digging, broad forks also break up the soil structure, harm soil organisms, and release carbon into the atmosphere. In some situations, however, they can be a useful way of establishing a new bed on severely compacted ground before moving on to a no-dig system.

There are quite a few myths about compacted soil. Mostly soil that is considered to be compacted isn't at all—it is just firm. Too often soil has been thought to be a problem to be solved, with "solutions" frequently creating even more problems. Establish healthy growing practices on your plot and encourage a diverse and resilient ecosystem. There are, of course, some exceptions, such as gardens on new builds which have been damaged for months by heavy machinery.

The fungal networks also help to maintain soil aeration and drainage. They support the aggregation of soil into stable particles coated with globulin glue, which is excellent for drainage, aeration, and root health. Contrary to claims that one “has” to dig in order for soil to drain freely, it is actually more beneficial to leave it alone and allow the structure to be maintained by the soil life. Indeed, digging can cause layers of compaction, which in turn may create anaerobic conditions which are harmful to soil life. (There are a few exceptions, such as having to dig a drain in seriously waterlogged areas.) Anaerobic soil has very little or even no oxygen, whereas aerobic soil has enough oxygen to be a healthy environment.

If you are now gazing at your freshly dug plot feeling worried about the soil life and wishing you’d read this book before taking the spade outside, the good news is that the soil will recover if you stop. Spread a mulch—compost is an excellent choice—across the soil, and in time the microorganisms will repopulate the beds. This is thought to take about 6 months, but we don’t know for sure.

No-dig reduces weeding. Turning the soil over exposes annual weed seeds to the light, which causes them to germinate. This is why there is often a flush of weeds a few weeks after digging. With no-dig these weed seeds remain underground. The mulch also helps to reduce weeds by providing a layer between the weed seeds and the light. This does not mean no weeding: weed seeds blow onto beds, and weeds creep in from the edges. Regular hoeing and hand weeding any larger weeds that pop up help to maintain a weed-free bed.

A mostly weed-free bed is a good idea for growing food because it reduces competition between the weeds and the crops, reduces habitat for slugs and other pests, and makes it easier to plant new crops and intercrop. I grow a lot of weeds in wilder areas of the garden to increase biodiversity, but prefer to keep my vegetable beds as weed-free as possible. There are always some lurking on my beds—I am not aiming for perfection. It saves time if the bed is ready for planting rather than having to battle with a bed full of weeds first.

No-dig saves time too because mulching annually is so much easier and quicker than digging in compost. Just spread on the surface and let nature do the rest.

A note on chemicals

Chemical fertilizers, weedkillers, and fungicides harm the soil flora and fauna, and can leech into streams, rivers, and other water sources, with far-reaching consequences. They are also harmful for our gut health.

They are ghastly things and should be avoided. It is always worthwhile reading the labels of any “natural” plant foods or bagged composts before purchasing, because a surprising number that on the surface appear to be totally plant based actually contain chemical fertilizers.

Composting

A compost heap is the heart of the garden, recycling waste into nutrient-rich food for the soil. This wonderful and thankfully simple process is sometimes overcomplicated, leaving the home gardener confused about whether rich, crumbly compost is truly attainable or whether it is some mythical procedure requiring magic skills. All you need is a balance of approximately 50/50 "browns" and "greens" and some basic equipment.

Composting is essentially organized decomposition (which occurs naturally all the time) in managed heaps. Tiny organisms including bacteria and fungi, along with creatures such as woodlice, millipedes, slugs, snails, and worms, turn plant matter, cardboard, and natural-fiber cloth into rich, crumbly, sweet-smelling organic matter.

A healthy compost heap needs oxygen and water. It should be moist but not too soggy. Turning the heap once or twice during the composting process helps to aerate, which increases the heat and microbial activity, speeding things up. A compost thermometer is an inexpensive way of testing a heap to see how hot it is.

Gathering composting materials

Composting certainly appeals to our inner hunter-gatherer: even the most urban environment is a foraging ground! Seek cardboard from stores, or wood chips from community pruning projects (always ask first). The pursuit of biodegradable materials for the heap encourages a social outlook, too: raking neighbors' lawns in the fall for bags of leaves, vegetarian pet poo and bedding swapped for homemade goodies, or grass clippings gathered from people without the space to compost.

Forage for comfrey, nettles, dandelions, and yarrow (best not too close to busy roads). Ask at local breweries for spent hops, cafés, and supermarkets for used coffee grounds, and local stables for horse manure and bedding. Natural-fiber cloth is compostable: remove zips, buttons, and anything not biodegradable, then rip into smaller pieces before adding to the heap.

Another way to create more bulk for your compost heap, especially over winter, is to use green manures, such as field beans (see here, here); cut them at ground level.

Compost “brown” and “green”

The raw ingredients of the compost heap are divided into “browns” and “greens.” Mostly, they are brown and green in color too (coffee grounds, however, are a “green”). Browns have a higher carbon content and greens a higher nitrogen content. A roughly 50/50 mix of browns and greens works well. If you have too many greens, the compost can become slimy. Remedy this by mixing in more browns. Too many browns can make a dry heap, so mix in more greens and add a little water.

GREENS	BROWNS
Grass clippings	Twigs, pine cones, nut shells
Garden prunings, old plants	Bark
Kitchen scraps including eggshells, peelings, rinds	Wood chips and sawdust
Coffee grounds and non-plastic teabags	Animal bedding
Pet fur and hair	Shredded paper (non-glossy)
Seed-free weeds	Brown cardboard
Green leaves	Brown leaves
Animal manure (not dog/cat)	Straw
	Napkins
	Hay
	Cotton, silk, linen, wool fabric
	Wood ash

Compost activators

A compost activator helps to start or speed up the composting process. Human urine is an excellent activator, either applied directly to the heap or mixed with other materials such as sawdust as part of a compost toilet. Comfrey, nettles, grass clippings, and (vegetarian) animal manures such as cattle or horse are all excellent activators.

Composting perennial weeds

Whether or not to compost perennial weeds such as nettles, bindweed, or quackgrass depends on the kind of heap you have. They are fine to include in small quantities in an enclosed heap with no light, but to make sure they do not regrow, soak the weeds in a bucket of water for a week or two, then tip into the heap.

What to avoid

Avoid composting weed seeds, diseased plants, and very invasive plants.

Cooked food waste can attract rats and is therefore best avoided in most compost heaps. To safely compost food waste at home, use a bokashi system or one of the insulated hot composters.

Making a compost heap

Decide where you want the compost heap to be. It's helpful but not essential if open-bottomed composters are situated on earth for interaction with the soil life. Sometimes the only space available is on concrete or paving. Happily, the worms and composting flora and fauna will find their way to your heap via the soil, roots, and leaves of the plants.

Gradually build up the heap. It's helpful to have a supply of cardboard (or other browns) to rip up and add during months where there's an abundance of greens. For added oomph, use a homemade compost activator. A cover is helpful to keep off weed seeds and excessive rain, and to keep the heap warmer during winter. Turning helps to speed up the composting process, but it is possible to make excellent compost without turning; it just takes a bit longer.

Composting worms

The worms that live in compost heaps and vermicomposters are different from earthworms, so don’t add those. Commonly known as red wigglers (also called brandling or tiger worms), composting worms are red and thin. They live in and feed on decaying matter and seem to appear by magic when a heap is set up, so there is no need to buy any. The worms either crawl there or come in as eggs in the plant materials added to the heap.

Wild residents

Wild creatures such as toads choose to live in compost heaps so be aware that they may be present, especially in the lower parts. Move slowly with your fork when turning or removing the compost to enable them to wander off.

If you are concerned that rats or mice have moved in, bang the sides of the bin before turning to scare them away. It is absolutely fine to use compost that rats have lived in and you can still eat anything grown in it; just make sure you use sensible precautions, such as wearing gloves when handling it.

Solarization

If your homemade compost is full of weed seeds, after spreading it on the beds cover with a sheet of clear polyethylene weighted down securely. This will warm the soil, causing the seeds to germinate. Hoe the seedlings off, then cover again and repeat once or twice before sowing and planting.

How to use composters

Over the years I have tried many different systems and methods; here are some that work well.

HOMEMADE COMPOSTERS

Home gardeners often make their compost heaps from anything they can upcycle: old pallets, doors, wooden packing crates. You can make a lot with a pallet even without carpentry skills, but ensure they are safe: some can be treated with chemicals you wouldn’t want in your soil or compost. Heat-treated, kiln-dried, and untreated are preferable. Usually, if the pallet has no markings, or is stamped with GB or the initials of an EU country or KD (kiln dried), it is safe. Avoid using colored and stained pallets or those treated with methyl bromide (stamped MB), a toxic insecticide.

I make simple composters with just four pallets and strong rope or garden wire to tie them together. The front is removed to access the finished compost. Line with cardboard if desired.

HOT COMPOSTERS

These reach high temperatures and make compost quickly: from start to finish in 90 days. The fully insulated plastic unit, about the size of a large trash can, operates at 104–140˚F year-round. It can take a large variety of waste including cooked food, bones (though these will remain mostly intact), and food scraps without attracting rodents or flies.

You need a balance of garden and food waste; add shredded cardboard, sawdust, or wood chips to ensure that it is composting aerobically. Mixing regularly helps too.

Though expensive, they are useful if you have food waste, want to make compost quickly or to compost plants with seeds, which are killed in the high temperatures.

BOKASHI

Bokashi is a Japanese system of pickling food scraps using bran inoculated with effective microorganisms and molasses and is ideal for smaller spaces. It is microbial fermentation rather than aerobic composting. About the size of a bucket, the bins have a tight-fitting lid to reduce odors and aid fermentation, and a tap to enable you to drain off the liquid plant food (diluted 1:100 with water).

You'll need two bins: one to fill while the other ferments. You can buy complete starter kits that cost well over $100, but it's also easy to make your own (see here).

Bokashi bins can take almost every kind of food scrap; avoid adding too much oil or very moldy food, which can upset the bacteria. After adding a layer of kitchen scraps, sprinkle on some of the inoculated bran and replace the lid. Draw off the liquid (if any) every few days. When the bin is full, put somewhere to ferment for 2 weeks and start the next one. It can be a bit smelly at this stage, so I put mine in the shed. After 2 weeks it may look the same but the transformative process has happened. Pour the fermented solid waste into a regular compost heap and cover with cardboard or garden

waste. It is far too strong for plants at this stage, but the Bokashi process means that it no longer smells attractive to rodents.

Worms feast on your waste!

Vermicomposting is an interesting and efficient way of recycling kitchen and garden waste into beautiful fine compost and a nutrient-rich liquid fertilizer, but it is a slow process. Worms have very small mouths, so don't expect speedy results.

I keep a separate labeled container in my kitchen for the worms, so that they don't accidentally get food waste they don't like and to ensure the waste is chopped to a smaller size than I would for other systems. You can feed them coffee grounds, tea leaves, rice, pasta, bread, and other cooked scraps (but not large quantities of dairy, meat, fish, or bones), natural-fiber fabric, hair (pet hair or from your hairbrush), and eggshells. These provide grit for the worms and it is helpful to pop the eggshells in the oven after cooking, when it is cooling, to dry out and then manually crush them before feeding to the worms. You can also add poo from vegetarian pets (guinea pigs, rabbits, etc.).

Worms also love plenty of unprinted cardboard, around 30 percent of everything you add. Soaked, ripped up, and placed on the surface, this helps to keep a moist environment. Mail-order packaging with any plastic removed is ideal. They will also enjoy shredded plastic-free bank statements and other sensitive documents. Never feed them glossy printed paper.

It is best not to add too much citrus or onions to the worm bin. Although this is fine in regular compost heaps, in a worm bin it can increase the acidity level to a degree that harms the worms.

Many vermicomposters are manufactured from recycled plastic and come in a variety of sizes. Most have three or four trays, allowing the worms to gradually move up, leaving a tray filled with lovely fine compost. This can take between 8 to 12 months. I prefer to allow the worms time to move up a couple of layers so that I can be sure that they are no longer living in the base layer before I remove it. After emptying the compost out, I wash the tray in water and return it to the top of the composter.

Vermicomposters operate best around 64–77˚F, so I keep mine in a covered area where they are sheltered from the extremes of weather. As this is exposed on one side, during very cold spells I protect it with an old sleeping bag to prevent freezing. You need to use the right worms for this,

not earthworms; either buy from a supplier or attract your own by laying damp cardboard on the soil. After a few days, red wiggler worms will start to appear and can be added to your vermicomposter.

Leaf mold

Most residential and community gardens produce smallish quantities of leaves that can be added to compost heaps, but if you have access to a lot of leaves, making leaf mold is advantageous. It takes a couple of years to mature but is an excellent ingredient for homemade seed sowing and potting compost mixes, helping to retain moisture (see here).

Leaves shredded by a lawnmower will break down a lot faster, although I prefer not to do this in case I inadvertently chop up creatures on the leaves.

Make a simple wire bin structure from chicken wire supported by posts or stakes in a circle or rectangle; this ensures the leaves are not blown away. Alternatively, punch some holes in old compost sacks and fill with leaves. Tie with string and leave in an out of the way place. For a biodegradable method, fill burlap sacks or other natural-fiber sacks (old cotton pillowcases, for example) with the leaves and tie. Pile up and leave to compost.

Composting manure

If you have access to animal manure that you wish to use but is not composted, stack in a pallet compost bin and leave until rich and crumbly. Alternatively, if the manure has been delivered in a big pile, cover with a sheet of pre-used polyethylene to keep any weed seeds out, and leave until well rotted. This takes between 6 to 12 months.

No shredder or lawnmower

Tree and fruit bush prunings and thick plant stems will all break down naturally in a compost heap, but they take a long time and need transferring from one heap to the next over several years before they are suitable to use.

Years ago I read that these were good to place at the bottom of the compost heap, so I duly did so. However, when the time came to use the compost, the twigs were still intact and I had to spend time fishing them out. So now I make alternative arrangements, including a slow compost heap that doubles as a wildlife sanctuary.

If you don’t have the space, pile them under bushes. I layer small logs, twigs, pine cones, teasel heads, hollow plant stems, and crunchy leaves under the fruit bushes and trees, placing pieces of slate or similar on top to create a drier environment. This increases the habitats in that area, creating a home for wild creatures including insects, amphibians, and small mammals.

Plants to grow or forage for home composting

Grow composting plants in spare gaps and forage in your neighborhood to boost your composting. Cut at ground level when harvesting, leaving the roots (which are beneficial for soil life). Do not compost seed heads or they may take over your garden!

Phacelia, borage, and chamomile: Fast growing. Leave some to flower in a wildlife corner for the bees.

Comfrey (pictured above), nettles, yarrow, and dandelions: Forage for the leaves or grow in a wild area of your garden.

Field beans: This green manure is ideal for empty spaces and can be sown either as an overwintering crop or in empty corners. Cut off at ground level before they produce beans and chop with a spade into 6-inch pieces before adding to the heap. Broad beans and peas work well too.

Agricultural mustard: Fast-growing, and can be used over winter (it will be killed by frost). Rake up and compost.

Mulch

Mulch, mulch, and mulch some more! Whether you are growing produce for a market garden or a few vegetables in pots, mulches are a key way for organic gardeners to ensure the health of soil and plants.

A mulch is a layer of material spread over the surface of the soil. There are many different kinds to use. I prefer natural, biodegradable mulches, such as compost or wood chips. There are also natural but non-biodegradable mulches, including gravel or slate chips, and manufactured ones that are not natural, such as plastic.

The benefits of mulch

Mulching helps to retain moisture, locking it in the ground and reducing evaporation. It enables you to reduce the amount of watering needed and significantly helps plants thrive during periods of drought.

Mulching helps to reduce the effects of high and low temperatures on the soil and plant roots. During cooler months, mulches can work to prevent frost damage. In the summer, a mulch protects the soil and roots from the drying and eroding effects of hot sun. This also helps to protect soil from crusting over and becoming impermeable to water, or eroded by wind.

Biodegradable mulches feed the soil and soil life as they are slowly incorporated. The mulch adds organic material and nutrients as well as creating a home for wildlife, such as black beetles and spiders, or a place for wildlife to forage in for food. Mulches also improve soil structure by creating a thriving environment for worms and other soil life, creating channels and air pockets.

Mulches can help to reduce weeds. A deep mulch smothers weed seeds and prevents germination, but this does not mean no weeding. Weed seeds blown onto the mulches can germinate, and weeds such as buttercups can creep in from the edges. Some perennial weeds such as dock or horsetail will just grow through the mulch, no matter how deep it is.

On pathways, mulches such as wood chips or bark create a stable non-slippery surface, making them accessible year-round.

Also, mulches are beautiful. A freshly mulched garden bed, border, or path can really make a garden look lovely and gives a sense of satisfaction.

When is the best time to mulch?

For most of the year, any time is a good time to mulch. There's no one window of opportunity. Of course, it would not be ideal if the ground is covered with snow, or frozen solid, or extremely wet—not least because it would be very difficult to push a wheelbarrow of mulch in those conditions.

Many gardeners prefer the fall and winter, because there are fewer other gardening tasks to do and the beds are usually much emptier, which makes it easier to spread the mulch. It is helpful to have all of the beds mulched before the busy-ness of spring.

You don't have to mulch just once a year. If the weather is about to become unexpectedly hot, then take the opportunity to mulch again to lock in moisture and prevent evaporation.

Applying mulches

There are quite a few misconceptions about how much mulch to use. I have heard on many occasions that you must add 8 inches of compost mulch a year to no-dig beds. Imagine that! You'd need a ladder eventually to reach the top.

I usually add ½–¾ inch of compost a year to my annual vegetable beds. Other mulches vary depending on their use and composition. For example, a mulch of freshly chopped comfrey leaves may be 2–2½ inches deep, but this will fairly quickly rot down to around ½ inch.

In hot, dry climates a deeper mulch will be beneficial.

Which mulches to choose

With so many materials to choose from, it can be confusing deciding which is best to use. The key factors are your location, the weather, the time of year, and what you are growing. This may seem daunting, but it is really just a question of observation and working out which mulch works best in your situation. It is fun. Honestly.

In damp climates, there may be a lot of slugs. So mulches for plants that are susceptible to slugs need to reduce habitats for these slimy creatures, using compost for example. However, in hot, dry climates without a large slug population, deep mulches of straw, grass, or hay work extremely well.

There is never one rule for gardening, and there will be times when deep mulches of straw or grass clippings are ideal. If the weather is hot and sunny, for example, these mulches will help to significantly increase yields if piled on top of potatoes.

The time of year makes a difference too. I would not spread a "chop and drop" mulch on my annual vegetable beds during spring and summer, because that entices slugs. However, in the fall and winter, when there are very few young plants in the kitchen garden, this kind of mulch is ideal for protecting the soil against winter weather.

What you are growing is also relevant. I would not spread wood chips on my annual vegetable beds here, because it attracts woodlice and, contrary to the myth, woodlice do like to eat living plants, especially young growth. However, it is fantastic as a mulch for perennial vegetables, fruit bushes, and fruit trees.

Mulch types

COMPOST

Whether it is homemade or bought in, compost is an excellent mulch for edible crops, flowers, trees, and herbaceous borders. Compost is slowly incorporated into the soil by the soil life, and with some exceptions is so rich in accessible nutrients that no other feeds are needed, not even for "hungry" plants such as squash or tomatoes. Compost does not provide much habitat for slugs, snails, and woodlice, which makes it ideal for susceptible vegetables. One advantage is that it creates habitat for black beetles, which are predators of slugs!

Some municipal compost produced by communities from green and food waste is produced at such high temperatures that it is not very nutritious when sold to the public. It can benefit from extra food (see homemade natural plant food) or green manures to help boost fertility. Soil organisms will gradually populate poorer-quality composts, increasing their nutritional value.

Mushroom compost is another potential mulching material that can be bought in bulk. While it does work well, and you may even get the bonus of a crop of mushrooms, it is worth noting that, at the time of writing, mushroom compost may contain peat.

WOOD CHIPS

Wood chip mulch is made from shredded branches and twigs, and can be created at home using a shredder. It is excellent for inhibiting weed growth and slowly breaks down, feeding the soil. Fungi especially love a wood chip mulch. Spread on the surface, wood chip mulch does not rob nitrogen from the soil (which can happen if dug in). It is fine to use pine and conifer trees too; they will not lower the pH of your soil unless dug in.

Wood chips used to be available for free or with a delivery fee from arborists, but now it is more commonly sold. It is, however, well worth contacting local tree trimming companies to see if you can arrange a delivery.

Ramial wood chip mulch is made from branches with a diameter of less than 3 or 4 inches. They are nutritionally richer than larger branches and make an excellent mulch. The easiest way to get a supply of ramial wood chips is to make your own using a chipper or shredder (these can often be rented).

Wood chips composted for over 18 months make an excellent potting or sowing compost. Sieve to get larger bits out.

It is best to avoid wood chips from allopathic trees such as black walnut, which can inhibit plant growth. If you are concerned about the provenance of some wood chips, leave them to break down for a year before using.

FALL LEAVES

Every fall I carefully rake leaves from the grassy areas and paths, because they can become slippery and dangerous if left *in situ* here on a Welsh hillside. They are one of my favorite free seasonal mulches. Some go into a wire frame to create leaf mold, and the rest are spread as a mulch. In the UK, fall leaves take 18 to 24 months to break down, feeding the soil and creating an environment for many creatures to live and forage in. A light sprinkling of leaves is fine for annual vegetable beds, but I avoid a deeper mulch because it can entice slugs.

Some recommend running leaves through a shredder to speed up the composting process. I don’t do this, because the leaves will have many creatures clinging to them and I don’t wish to chop them up. For the same reason I don’t use leaf blowers or vacuums. Raking takes longer, but is much kinder to the wild creatures.

CHOP AND DROP

Chop and drop is absolutely what it sounds like. When cutting leaves or plants, rather than adding to the compost heap, drop them on the surface of the soil as a mulch. The plant matter will slowly break down, feeding and protecting the soil as it does so. Almost all plant materials can be used for chop and drop; cut up thicker stems such as brassicas first to speed up decomposition. It is free and so easy. Of course, in sluggy locations chop and drop can create habitats, and so I don’t use it around tender young plantings.

Comfrey and borage leaves make excellent chop and drop materials. I gather these to use as mulches throughout the growing season, taking care to avoid adding comfrey roots or seeds to prevent it from taking over my garden.

In the fall when harvesting, I leave leaf, stem, and root trimmings on the soil, which helps to protect it. This is especially useful when winters are very wet or cold. In the spring, just rake up any plant matter that has not broken down and been taken into the soil before sowing and planting.

For perennials, established plants, and in warmer, dry climates, chop and drop works brilliantly year-round.

GRASS CLIPPINGS

Grass grows for much of the year, and if you have a lawn the chances are that you are producing a lot of wonderful free mulching material. When using grass clippings as a mulch, spread in thin layers to avoid creating a slimy mat. Rich in nitrogen, a regular sprinkle on the soil acts as a fertility boost.

Grass clippings are excellent for “earthing up” potatoes, for encouraging large-size celeriac (celery root), and suppressing weeds around squash once they have become established. They are best avoided if the summer is very wet, because they can attract slugs.

If your neighbors do not compost their grass, it is worth asking whether you can have it for your plot, but do make sure that no herbicides are used on the lawn, such as “weed and feed” sprays, which can contaminate the soil and kill plants.

Grass clippings are an excellent mulch for lawns: just leave *in situ* when mowing. I always have the lawnmower blade set to a fairly high level so that the lawn is long enough to provide a habitat for a wide range of insects. This still provides me with plenty of grass for mulching or composting.

HAY AND STRAW

Both hay and straw make an excellent mulch during hot weather, but it is worth bearing in mind that hay is likely to contain seeds. I know lots of gardeners who have inadvertently created a new “lawn” on their veg beds using hay. Unless you know its provenance, there is a risk that hay has been sprayed with aminopyralid, a broadleaf herbicide, which can contaminate soil and kill many vegetable crops, and for these reasons I don’t use hay. Straw can also be sprayed with some very powerful herbicides so it is best to source unsprayed materials if you can. Straw and hay can blow away in windy locations and create habitat for slugs, so it is worth bearing this in mind when choosing where to use it.

WOOL

Here in Wales, sheep fleece is often a waste product and farmers are happy to give it away. Rich in potassium, nitrogen, and phosphate, it comes as large pieces of whole fleece or the soiled end parts known as “dags.” Both are useful as a mulch around established plants and for perennial beds. Fleece inhibits weed growth and is excellent for locking in moisture. It can help to retain heat in the soil during winter. Fleece is said to deter slugs. Some gardeners find it works well; others (myself included) find slugs slithering happily over and under it.

Another free source of sheep wool can be found in some frozen goods packaging, where a good-size mat of wool is contained within a removable plastic cover. Or you can buy it from manufacturers of fleece garden felt.

Fleece takes 2 to 3 years to break down, so do bear this in mind. It is really easy to remove and therefore can make a great temporary mulch. Fleece soaks up moisture—useful on paths that become waterlogged.

To make a traditional country plant food, soak soiled dags inside a burlap sack in a barrel of water for a week or two. Dilute the liquid so it resembles weak tea before use. It will keep for a few weeks, but in hot weather becomes very smelly.

LIVING MULCH

Annual and perennial living mulches, also called cover crops and green manures, protect and feed the soil while also increasing biodiversity above and below the ground (see also here).

NATURAL, NON-BIODEGRADABLE MULCH

Slate chips, gravel, horticultural grit, stones, and crushed shells are all natural mulches, but they do not break down and feed the soil. They can look beautiful, are useful for Mediterranean-style gardens, paths, and mulching the surface of pots. They do not work well in most kitchen gardens, with the exception of around some herbs, such as rosemary and thyme.

PLASTIC MULCH

Plastic mulches include thick black plastic sheeting and landscape fabric. They provide no benefits to the soil and are rarely recyclable. Never bury a plastic mulch in the ground or under mulches: it eventually breaks down and shreds into the soil.

Landscape fabric, or weed mat, is used for weed suppression. Try to avoid this as much as possible. Over time weeds grow through it, resulting in a tangled mess of weed roots and plastic fibers, which ends up in landfill. A sheet of plastic mulch can be a useful way of clearing the ground temporarily to kill off weeds by blocking light. Try to use pre-used plastic for this.

Of course, there are always exceptions, such as creating accessible paths for community projects. But generally speaking, it is best to avoid plastic mulches.

CARPETS

Avoid! Even natural fiber carpets are treated with chemicals that leach into the soil, unless you can get hold of very old pure wool carpets.

Green manures

Green manures are a sustainable, affordable way to protect soil, increase biodiversity, and add fertility to your garden.

A green manure is a living cover crop. Usually fast-growing plants, they are a natural, organic way to increase biodiversity above and below the soil. People have been using green manures as part of soil health for millennia. As weather patterns change, green manures are an excellent way of increasing resilience in the garden.

I am often asked how green manures fit into a no-dig gardening system. Don't you have to dig them in? Thankfully, the answer is absolutely not! If you think about it, there's no point doing something that benefits and helps to protect the soil, and then digging it all over, which destroys crucial soil structure, kills soil life and mycorrhizal fungi, creates more weeds, and releases stored carbon into the air. Instead, choose green manures that either die during the winter, killed off by frosts and snow, or are easy to cut down, leaving the roots in the soil.

Tall cover crops such as field beans, lupines, and forage peas need to be cut before the bed is used for the next planting. I cut at ground level, leaving the roots in the soil, and chop up the plant matter, adding it to the compost heap or spreading under perennials to rot down as a chop and drop mulch.

If you do accidentally sow a green manure that is more difficult to remove, such as forage rye, don't despair! Simply cut it down (with a string trimmer or other tool) and cover with a sheet of light-excluding black polyethylene for a few weeks to kill off the roots.

Many seed companies offer green manure mixes, which usually contain rye. Instead, choose single-variety green manures and make your own mixes; you can adapt each sowing to suit the environment in your garden.

Green manures can be sown across empty beds and between established crops. Whether you can grow a green manure between vegetables and other plants (called undersowing) depends on what they are and where you are located (climate, soil type, what kind of pests are prevalent). Smaller plants could easily be out-competed by green

manures, and it can be risky for plants that are susceptible to slug attack. However, during hot dry weather, a green manure can help to protect the soil and benefit the growing crops by reducing evaporation of moisture from the bed. Like so much of gardening, it very much depends on your circumstances, the time of year, and the weather.

I try to grow as much food as I can here, and maximize food production from each bed using interplanting. Also known as intercropping, this usually involves growing smaller "catch crops" between larger plants. I don't use green manures in annual beds where I am intercropping, because there is the risk they will out-compete my smaller food crops.

Green manures work brilliantly between perennials and larger annual plants (unless intercropping). Sow under fruit bushes, alongside rhubarb, under trees, between brassicas once they are established and in herbaceous borders.

Every year I experiment with different combinations to discover what works well. I sowed green manure in a newly created asparagus bed to increase biodiversity and protect the soil from weed seeds blowing in, choosing phacelia, which would not compete with the establishing asparagus roots. This quickly covered the bed, the distinctive purple-blue flowers providing forage for insects, and during periods of extended dry weather, it helped to protect the soil from moisture evaporation.

Benefits

As noted at the beginning of this section, green manures are incredibly beneficial for the garden. They improve soil fertility, bring up nutrients and minerals from the soil depths, and increase biodiversity above and below the soil. They protect the soil against erosion caused by drought, heavy rain, or wind, and help to prevent nutrients from washing away. Some green manures fix nitrogen in the soil, such as field beans, forage peas, and vetch (all legumes). They suppress weeds, forming a thick layer of plant matter on the soil surface that makes it less likely weeds can germinate. Perennial weeds such as bindweed, brambles, horsetail, or quackgrass will still grow through, however.

They can deter some pests and diseases. Brassicas undersown with trefoil, crimson clover, or vetch can help to confuse flying insects such as cabbage white butterflies. Some research suggests that mustards can reduce wireworm (the larvae of click beetles which can attack crops such as potatoes and carrots), acting as a biofumigant.

The flowers provide forage for many creatures and attract beneficial predators into your garden. To further increase biodiversity, you can use two or more green manures together, such as tall-growing field beans with an undersown ground cover of crimson clover.

Some green manures, such as field beans, are excellent for adding bulk to compost heaps, increasing your compost production. Deep-rooting green manures (for example, radishes) can help break up heavy clay soil and compaction.

Using green manures as a source of fertility can help reduce the amount of compost you need for your beds. They are entirely plant based and great for anyone wanting to use no animal products in the garden. The small packet sizes make them a viable option for home and community garden growers, and they are affordable too.

Perennial green manures

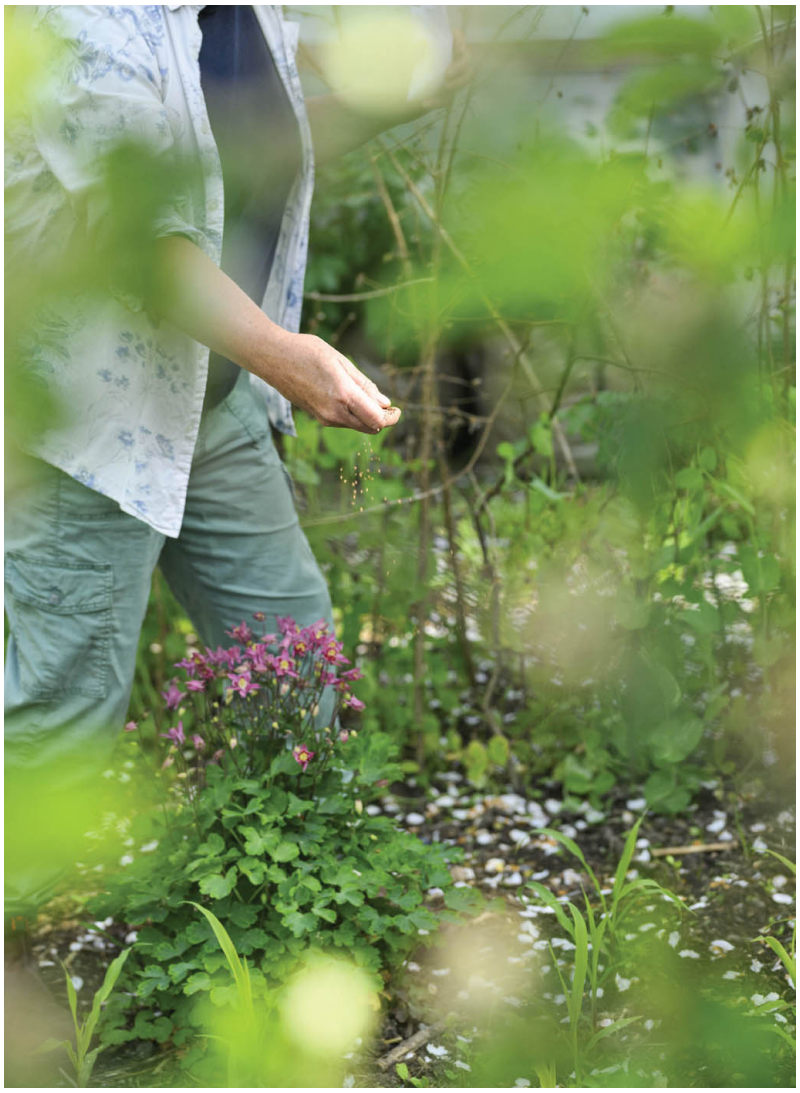
Long-term cover crops, such as white and red clover, are ideal for areas where perennials such as fruit bushes, trees, or shrubs are growing. They are best avoided on annual beds, where they can compete with vegetables and make sowing seeds difficult. An excellent weed suppressant, these living mulches also fix nitrogen from the air and provide habitats for a wide range of creatures, as well as vital forage for bees and other insects.

Green manures and crop rotation

Unless there is a specific reason to do so—diseases such as club root or white rot—crop rotation is not necessary. As we learn more about soil life, it is becoming clearer that diversity is just as important below the soil as it is above, and that the soil flora, fauna, and fungi thrive where there are many different kinds of root systems in the ground.

When to sow

The sowing times vary according to variety. For overwintering, choose cover crops that will survive most of the wintry weather: mustards, field beans, winter tares (vetches), and forage peas. Rye grass will also survive the winter, but as already explained this can be difficult for smaller-scale growers to remove in the spring so is best avoided. Sow from late summer to mid-fall.



Spring-sown green manures offer more variety, and can be sown from mid-spring onward, as the soil warms up. Hoe off if you want to use the bed

for something else, or leave to flower. Don’t allow them to set seed unless you want them to reappear.

“Free” edible green manure

When checking through my seed stash I always discover packets with just a few seeds inside, or that are too far out of date to be a viable option for the following growing year. Any with edible leaves—such as salads, brassicas, chard, spinach, and oriental greens—make an excellent edible green manure. Pour them into a clean dry jar, shake to mix and sprinkle on the soil. They’ll help to protect the ground and provide tasty edible harvests.

I also use spare transplants in the same way, popping them in empty spaces to grow. Their root systems will help to support the soil and they can be cut down when you need to use the bed, making extra bulk for the compost heap.

Some green manure varieties

Alfalfa: One of the longer-lasting green manures, alfalfa can grow for a year or so, surviving winter if established from a late spring/early summer sowing. Cut two to three times a year to encourage fresh growth; the leaves can be used as a chop and drop mulch.

Buckwheat: A fast-growing cover crop, buckwheat quickly out-competes annual weeds with a dense canopy of leaves and flowers.

Caliente mustard: With biofumigant properties, this is an ideal green manure in areas where potatoes are grown as it can deter wireworm. It will overwinter and can be sown any time from early spring to mid-fall.

Crimson clover: One of my favorites for its stunning flowers, crimson clover is much loved by bees. Sow from spring to late summer; it is killed by harsh winter weather. (Do not confuse with red clover, which is a perennial.)

Fenugreek: A fast-growing cover crop sown from early spring to late summer. A legume, it fixes nitrogen in the soil and produces white flowers which attract a variety of insects.

Field beans: An ideal overwintering green manure, they are edible too if allowed to mature; use just like broad beans. Cut down in the spring, leaving the roots in the soil.

Forage peas: Sown from early to late fall, this legume is one of the best overwintering cover crops, helping to suppress weeds.

Lupines: With long taproots, lupines help to bring up minerals from deep within the soil from an early spring to midsummer sowing. They produce gorgeous purple-blue flowers and seed pods full of edible seeds. Cut at ground level once mature, and add the plant matter to the compost heap.

Persian clover: Another beautiful flowering annual clover; sow as crimson clover.

Phacelia: A real favorite with bees and hover flies, this pretty green manure grows rapidly, helping to smother weeds. Sown from early spring to early fall, it can survive milder winters and self-seeds with enthusiasm.

Radish: Sown from late spring to early fall, this dies back during cold winter months or can be cut at ground level. The flowers are tasty, and the roots help to break up compaction.

Plant food

In addition to using mulches in the garden, homemade plant foods are a simple, natural and thrifty way to improve growth. I have grown abundant crops on community garden beds using just homemade plant foods during years when I hadn't been able to make enough compost to mulch them all. Additional food is vital for container-grown plants, which cannot connect to the soil web to access nutrients. Plant food also helps to increase yields of fruiting plants such as tomatoes and melons. The amount of plant food to use varies according to the ingredients, but as a general rule feed every 2 weeks during the spring, increasing to every week during the peak summer period for heavy-feeding fruiting plants.

Homemade recipes

There are many plants to choose from that are ideal for making plant food, including some that will thrive grown in containers, such as borage, comfrey, dandelions, and nettles.

— **Borage:** High in nitrogen. Grow this stunning plant, a magnet for bees, in vegetable beds or pots.

— **Comfrey:** High levels of nutrients including potassium, nitrogen, and phosphorus. Every garden should contain comfrey because it is such a wonderful source of nutrients for soil, compost heaps, and plants, grown either in the ground or in pots. Choose a non-invasive variety such as 'Bocking 14'.

— **Dandelions:** Full of micronutrients including iron and magnesium, dandelions can be allowed to grow in pots or garden paths.

— **Dock:** A dynamic accumulator (a plant that draws nutrients and minerals up from the soil, and stores them in its leaves and roots) to grow in wild areas.

— **Grass clippings:** Fill a bucket two-thirds full with grass clippings after mowing the lawn, and fill the bucket with water. Loosely cover with a lid and stir each day for 3 days. Strain and use undiluted as a nitrogen food.

— **Horsetail:** Includes silicon, magnesium, calcium, iron, and zinc. It is definitely not a good idea to introduce horsetail to the garden as it is incredibly invasive and difficult to eradicate, but as many home and community gardens already have this ancient plant, it is good to know that it can be put to some use.

— **Nettles:** High in nitrogen, nettles are well worth growing in pots or in wild areas of the garden.

— **Perennial weeds:** Soak quackgrass, bindweed, and other perennial weeds removed from your plot in a bucket of water. After 1 to 2 weeks, when the weeds have turned to mush, strain and use the liquid, diluted to resemble weak tea, as a general food. Compost the weeds.

— **Seaweed:** With phosphorus, potassium, magnesium and calcium. If you don’t have access to the beach to collect your own, seaweed is widely available in concentrated liquid and dried form online and in garden centers.

— **Yarrow:** Includes potassium and phosphorus. Whether you choose the wild white-flowering kind or one of its brightly colored cousins, yarrow is an ideal plant to grow in pots or at the edges of the vegetable bed.

— **Other liquid plant foods:** Collect the liquid from bokashi, vermicomposters, and also hot composters. Dilute 1 part to 100 parts water to make a feed.

Multipurpose plant food

You will need:

— a bucket or similar container
— water
— a stick to stir
— a lid
— cheesecloth or similar cloth for straining, or make a simple bag out of cheesecloth to avoid having to strain

Half fill the bucket with plant materials (choose from the list) and add the water. Stir and replace the lid (if there is no lid, use a piece of wood and a stone on top). Leave for 2 weeks, stirring every day, then strain into another container. Use right away, diluted 1:10 with water, or store until needed. It will keep for a few months but can get very smelly. Glass carboys (demijohns) are ideal for this.

Be warned—this is very smelly! I always manage to pour some on myself so wear your worst clothes and have a shower afterward.

I advise caution before applying it in a greenhouse on a hot day. As the temperature inside the greenhouse increases, so does the smell. This is fine if you live miles from anywhere, but my neighbors suffered along with me all day.

MACRO/MICRONUTRIENTS

Macronutrients are needed by plants in relatively large amounts in order to thrive. The three most important are potassium, nitrogen, and phosphorus. Potassium helps with fruiting and flowering, while nitrogen is excellent for boosting leafy growth and phosphorous promotes healthy root development. Micronutrients are trace elements only needed in small quantities and include iron, copper, and zinc. All of these nutrients are found in healthy soil. In an organic garden, it is best to avoid chemical additives and use natural, plant-based nutrients to boost soil health.

To make an odor-free plant food

This method is less smelly (rather than completely odor-free), due to the absence of water. The microorganisms in water digesting the plant materials cause waste gases: hence the strong smell.

You will need:

— a bucket
— several containers with a hole at the bottom (large plant pots are ideal)
— a lid and large stone

1 Put a brick in the bottom of the bucket, to add stability.

2 Stuff the plant materials firmly into the plant pots and place on top of the bucket.

3 Place the lid on and a large stone to keep it secure.

4 Leave for 2 to 3 weeks, longer in cooler months. Gradually a dark liquid will ooze out of the lower plant pot into the bucket. Dilute 1:40 to use.

5 When finished, scrape the residual plant material into the compost heap.

Homemade dried plant food

This is especially useful for winter and early spring use when plants used for making food are dormant.

During the growing season, gather bunches of the fertilizer plants and hang somewhere dry and airy. Once they are completely dry, crumble into clean dry jars (wear gloves). Replace the lids and label with the ingredients.

Sprinkle onto the soil around your plants. This is also an excellent ingredient to boost potting composts.

Fermented plant juice (FPJ)

FPJ is rich in fertility and can be used as a compost activator, soil fertilizer, foliar spray, and soil drench. I mostly make this with comfrey, borage, and nettles.

You will need:

— plant leaves and stems
— brown sugar or molasses
— a large container for mixing
— large clean glass jars with fermentation locks or fabric covers and elastic bands
— strainer lined with cheesecloth
— gloves for mixing

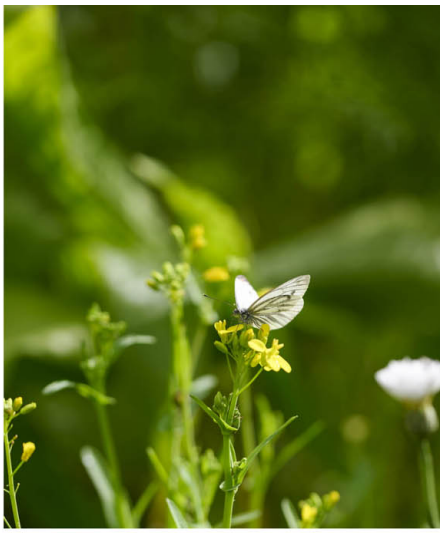
1 Gather a bucketful of plant material and weigh. Place in the mixing container with the same amount of molasses or brown sugar and mix well, massaging with your hands.

2 Pack into the glass jars, pushing down with a wooden spoon so that there are no air holes. Either use a lid with a fermentation lock or cover with fabric held securely with an elastic band or string.

3 Leave to ferment somewhere dry and airy such as a shed. After 7 to 14 days, strain through a strainer lined with cheesecloth. (The fermenting time depends on the time of year; it is quicker in the summer.)

4 Store the FPJ in labeled clean jars or food-grade plastic containers covered with cloth or a lid with a fermentation lock, to prevent explosions. These are widely available from homebrew and food fermenting suppliers. Do not use a regular lid as the contents may explode!

5 For a liquid food or foliar spray, add about 1 teaspoon per 1 gallon of water. Apply weekly during the growing season.



Working with nature

Increasing biodiversity in your garden is one of the most important things that you can do for soil health and the health of your plants as well as the surrounding ecosystem. We hear a lot about attracting beneficial pollinators and this is absolutely crucial. Pollinator numbers are in sharp decline and they need all the help we can give them. However, for a true balance in the garden, we need to garden for the predators too.

The right balance

Establishing a balance between predators and prey is not scary, honestly! It means creating the right conditions so that all of nature can thrive, which is key to growing a healthy organic garden. For example, aphids appearing in the spring are a vital food source for ladybug and hover fly (syrphid fly) larvae, and also for small birds to feed their young.

Wasps are one of my favorite predators, eating a wide range of garden insects, including cabbage white butterfly caterpillars. They are responsible for removing millions of insects every year to feed their young, and without them we'd be overrun with all kinds of damaging pests. They are also just as crucial pollinators as bees.

There are approximately 9,000 species of wasp in the UK, most of which are so tiny and harmless that we never notice them, including the parasitic wasps. Many that look absolutely terrifying—such as the wood wasp—are absolutely harmless. What resembles a giant "stinger" is actually her ovipositor, used to lay eggs in tree wood. It is worth noting that the European hornet is also beneficial, and is unlikely to sting unless provoked.

In late summer and early fall when the queen wasp stops emitting the pheromone that makes the worker wasps gather insects for the nest, they are essentially cast out and hungry. They need sugary liquids to survive. Fortunately, around this time there are usually windfall apples and other fruit for them to feed on. Try not to swat at annoying wasps: this can trigger their attack defense mechanism. Remaining calm and moving slowly are better.

I grow specific wasp-enticing plants, including figwort (*Scrophularia nodosa*). This remarkable native perennial plant is not the most attractive, but it supports a wide range of wildlife including figwort sawfly, which resembles a wasp with very dangling legs, and mullein moth caterpillars. A member of the foxglove family, it grows about 39 inches tall and has small flowers pollinated by wasps. Easy to propagate by seed, it is one of my top wildlife plants for the garden.

Beds mulched with compost may look "bare" at first glance, but they are actually a whole ecosystem teaming with wildlife. Spiderwebs stretch across the compost mulch, their occupants poised and waiting for aphids. You may see black beetles, centipedes, ants, worms, and the larvae of moths and other insects. If you are very quiet, birds may come and forage for their lunch. These creatures are just a few of the millions of life forms that thrive in compost and undug soil, most of which cannot be seen by human eyes.

Growing plants at different heights provides safe perches for birds out of the reach of predators, and food and shelter for a wide range of creatures. I make habitats on different levels too: from piles of garden debris for insects in the wild areas and dead hedges (see here), to old boots screwed high on to the shed walls for birds and insects to make their homes in.

To encourage beneficial insects I try to have some brassicas flowering year-round. Most of my productive brassica beds are covered with netting to protect against butterflies and moths, but I have brassicas dotted about to encourage predators. Even cabbage white butterfly caterpillars have their place in the diversity of the garden—I just don't want them on my vegetable crops—and they are a vital food source for many other creatures including birds and parasitic wasps. Common wasps predate caterpillars as well as other insects like aphids. Brassica flowers encourage these predators to lay their eggs in your garden.

If you follow the sowing schedule (see here) and leave one or two of the brassicas to flower, then you should have some in flower almost year-round (unless it is very cold or there is deep snow). Brassicas don't just mean cabbages: think Brussels sprouts, kale, mustards, pak choi (bok choi) and radishes.

Beetle and bug bank

Creating a beetle and bug bank can significantly increase your insect population. This is a mound of soil, as long and as wide as you have space for, which includes grass, perennial and annual flowers, piles of twigs, and other insect habitats. I include flowers that attract butterflies, ladybugs and hover flies. It provides a safe place for insects and other wild creatures to travel and live.

Wildlife-friendly lawns

Lawns are useful places in the garden—somewhere to picnic, lie in the sun, play games, hold summer parties or pitch a tent—and do not have to be a sterile environment. It is possible to encourage a diverse environment and still have a comfortable green space to relax.

Set the mower to a reasonably high setting to enable flowering plants to bloom. Wild plants that thrive in lawns include buttercups, daisies, dandelions, and clovers. All will flower even if mowed regularly, providing forage for bees and other insects; their seeds are devoured by birds.

Lawns are a rich source of food for birds searching for worms and other subterranean insects, many of which are regarded as garden pests (such as leatherjackets). I love to watch crows stabbing the grassy areas in search of meals.

Fungi

It is fascinating how many different kinds of fungi grow in my beds alongside the vegetables: a sign of good soil health. Most are not edible but occasionally some edible ones pop up. See here for some suggested fungi books. Never eat fungi that have not been clearly identified by an expert: so many toxic ones can resemble edible fungi. It really is worth making sure.

The fungi will spore and decompose naturally, and also provide a meal for some insects and other wildlife, increasing the range of food sources and habitats.

Amphibians

Toads love to overwinter in the cozy compost mulch and under piles of logs. They (like frogs) are a gardener's friend, eating slugs and other pests. Toads like other hibernating places too. I have one in the garden that overwinters underneath the hosepipe; another lives in a large plant pot underneath a plastic ornament, and more reside under the seed trays in my greenhouse. Sometimes I find my back garden toads cooling off in one of the shallow water pools I make for insects and birds. Frogs return to ponds every winter. If you have the space, a pond will encourage not only frogs but also a huge range of other wildlife.

Wildlife ponds and mini ponds

Creating a pool of water for wildlife is really worthwhile. Even the smallest pond can provide a useful source of water for insects and birds, and attract frogs and toads. Frogs return every year to the place they spawned from, so the best way to introduce frogs to your pond is to ask for some frog spawn from someone local with plenty in their pond (do not remove from the wild). All ponds need a log or similar so that anything that falls in can climb out. And make sure that small children cannot fall in if you are making a pond at a community garden site or in your home garden.

Increase diversity with water plants in the pond (for some edibles, you could add water mint and watercress, always washed thoroughly before consuming) and also around the edges. I grow many of my wildlife weeds here. Also use whatever you can find—logs, broken pots, slates, stones, twigs—to make different piles to create homes for insects and other creatures.

If you do not have the space for a pond in the ground, make a mini pond using a wooden barrel, old bathtub, or even an old bucket. This will be too high for frogs, but adding some flowering water plants and a branch (so that insects can escape if they fall in) will attract all kinds of life.

I also make bathing and drinking pools from large saucers for bees, wasps, and other small insects as well as birds and hedgehogs. Some are

filled with marbles, sea glass, or stones. Others have just one larger stone so insects can clamber out.

Spiders

Spiders catch aphids and other insects that can harm your plants year-round. I have an enormous fondness for spiders and encourage them to live in my greenhouse and hoop house by not being overly tidy and leaving their webs unless they have become old and full of debris.

Beetles

The compost mulch also provides an enticing habitat for many different kinds of beetles, including ground beetles which prey on slugs, snails, caterpillars, and other insects. In the hoop house I was thrilled to discover a dung beetle (*Geotrupes stercorarius*)—a sign of healthy soil. Dung beetles eat dung, of course, all kinds of poo depending on the type of beetle: cow, sheep, rabbit, horse, human. Some also eat decomposing fungi and vegetation.

Love your larvae

So many larvae of wonderful creatures look rather ugly and are sadly often treated as if they are harmful pests. Of course, some are not good to have in the vegetable bed, such as leatherjackets (crane-fly larvae) and wireworms (click beetle larvae), but most are fine to leave. When in doubt, leave any wriggly soil dwellers alone.

Don’t use aphid sprays

Did you know that bees feed on the honeydew excreted by aphids? I knew ants farmed aphids for this sweetness, but had no idea that bees were attracted until I saw it happening.

The elder in my edible fence was thick with blackfly. It looked really unsightly and horrible. In this area I grew different kinds of fruit with an underplanting of lamium (deadnettle), wild strawberries, and various bulbs and other flowers. I never spray but was wondering if I should cut off these infested branches because they looked so bad. Closer inspection revealed unexpected treasure—ladybug eggs! The beneficial predators were moving in to feast. A few days later I noticed a lot of bee activity here too. Just like ants, the bees were feeding on the aphids’ honeydew. If you have aphid damage on your fruit bushes and trees, wait and see what happens—soon it could be buzzing with delighted bees.

These examples show the benefits of not spraying your plants against aphids, not even homemade potions: they harm the good guys too. After a

few weeks there were very few aphids on the elder; the ladybug larvae had devoured them. Look after nature and nature will look after your garden.

Making room for weeds

If you are growing at a community garden, there may well be policies in place that affect what kinds of weeds you can grow, and more especially those you can leave to go to seed. It is important to consider your neighbors and not have loads of weeds blowing seeds over their plot. It is about finding a balance between sharing community spaces and creating excellent growing conditions for wildlife.

I allow plants more usually thought of as weeds to flourish in the wild areas and parts of the vegetable beds at home. I am not so keen on having them in my hoop house as that is such a precious growing space. Weeds provide food and shelter for many insects that in turn benefit the local bird and bat populations. Doing this certainly increases the need for weeding and hoeing because the weed seeds blow into other parts of the garden, but the benefits outweigh the extra maintenance. Be aware that this does mean extra work, and consider whether you have the time.

Some of the key weeds I grow include:

Caper spurge: The flowers are a good source of nectar for many insects; it self-seeds freely, so once established you will have plenty of new plants every year, which are easy to recognize and hoe.

Every part of this plant is toxic, including the seeds (which resemble capers) and the sap, which can burn skin (especially in sunlight) and is very harmful for eyes. Always wear gloves when handling.

Clovers: Red and white clover are excellent to grow under trees and fruit bushes, providing forage for a wide range of insects including bees, and the seeds are much loved by birds. The leaves are collected by wood mice for their nests and they attract the Common Blue butterfly, whose caterpillars feed on the plant.

Dandelions: Excellent early forage for bees and other insects, dandelion seeds are much loved by birds, including finches. The leaves are useful for making homemade plant foods. All parts are edible.

Fireweed (rosebay willowherb): Highly invasive by roots and seeds, so I grow it beside paved areas. It is an excellent source of nectar for insects over a long period into the fall and is a host plant for moth caterpillars, including elephant hawk moths. (See picture opposite.)

Mullein: A tall sculptural plant with soft gray fuzzy leaves and yellow flowers, I grow it specifically for the mullein moth caterpillars that it attracts. These gorgeous striped caterpillars can strip the whole plant, but it regrows. Mulleins self-seed so I keep two or three young plants in the fall to overwinter and grow the following year.

Nettles: Although nettles grow almost everywhere in the British Isles, I have a small patch at the bottom of my garden for culinary use, to make plant foods, and as a habitat for moth and butterfly larvae and even aphids for birds, ladybugs, and hoverfly larvae to feast on. Nettles are so insect-rich that they can attract toads and frogs, as well as birds. Mine are growing near to my wildlife compost bin. If you don't have much space, a pot will help to keep these invasive plants under control. Keep them away from vegetable and flower beds.

Teasels: These plants are so striking during the winter months that they are worth growing just to enjoy on a cold frosty day. I grow teasels for finches, in particular goldfinches, who return to my garden every winter to feast on the thousands of seeds they produce. Teasels are very invasive so they do increase weeding and will quickly take over otherwise, but are easy to identify as young seedlings for hoeing.

SOWING AND PROPAGATION

The miracle of a germinating seed sprouting and growing into a large plant never ceases to delight me. I may have accomplished this thousands of times, but each time I sow there is the thrill and anxiety of being part of creating new life.

In nature, if the conditions are right, seeds will germinate and plants will grow with no human intervention. Weeds are a prime example of this, often thriving when our much cherished seedlings are struggling due to poor weather conditions.

It is fun to let some plants self-seed and grow where they wish, including companion flowers such as nasturtiums, violas, and borage, and although you can let many kinds of vegetables self-seed and pop up where they will, for maximum crops it is worth giving them a helping hand. Propagating plants—in this case, starting seeds—under cover also enables us to grow edibles that would not otherwise be suited to our climate, such as melons and eggplant. Propagation does not require expensive or fancy equipment, and it is one of the loveliest parts of gardening.

Growing from seed

Sowing seeds is an affordable and fun way of creating a garden. Watching those first leaves emerging from the soil is one of the wonders of growing your own. It also opens up a whole world of varieties to explore. It is remarkable how many different kinds of vegetables, fruit, herbs, and flowers there are, and more to discover each year. Choosing unusual varieties to grow not only widens the flavor palette of your garden but can also offer a potential sideline selling plants locally that are not usually available in garden centers, such as exotic kinds of eggplant or unusual herbs like shiso or cinnamon basil.

Storing seeds

Many seeds are viable for a long time, so it makes sense to store them properly and saves money too. Store in an airtight container in a dry, cool, dark place such as a cupboard. Avoid places with fluctuating temperatures. Never leave in a greenhouse or where the temperature will get very cold. To help absorb moisture and prevent mold from developing, I pop those silicone gel sachets (dessicant) that come in food and product packaging into my seed boxes.

When storing home-saved seeds (see here), it is important to make sure that they are completely dry and check thoroughly for any signs of damage or mildew.

Variety, storage methods, and other factors mean that there is no hard and fast rule about how long seeds will remain viable. There are plenty of tales among gardeners of decades-old packets still germinating.

Working out the age of seeds

Many commercial seeds will have two dates printed on the packet: “sell by” (including a month and year) and “packed for” (noting the year the seeds are intended for planting, which is the same as the “sell by” year). This is an imprecise system for determining exactly how old seeds are, but it works for confirming that you’re buying seeds intended for the current season’s planting—and not leftover from the previous year.

The seed could be from a harvest some time prior to the earliest packing date, which makes working out how old it is even trickier, but all seeds are tested to ensure they reach the legal minimums for germination, which is done under controlled lab conditions with regulated heat and light. As this is not the same as sowing at home, your germination rate may be poorer.

Smaller heritage seed companies often sell fresh seed grown every year by micro-suppliers (you’ll be able to find out from their website), so working out their harvest dates is easier. For larger seed sellers, who buy their seed in from international companies and wholesalers, it is not usually possible to know when the seed was harvested.

What to do with old seed

If you have packets of seed that are well past their likely lifespan, you can, of course, try your luck. Or use the seed sprouting germination test. Put damaged, really ancient or moldy seeds into the compost heap.

Alternatively, use them as a green manure. Mix leftover seed packets together and scatter sow on empty patches of ground. Any that sprout will help to keep the soil life active, and can be hoed off when you’re ready to plant out that area.

Varieties with edible leaves and stems are ideal for growing micro leaves. Radishes, all brassicas, chard, salads, beets, peas, and herbs such as basil, dill, and cilantro make delicious healthy sprouts.

When to use plug plants

Buying in plug plants is most definitely not cheating! You can create your homestead in the best way for your situation. There are a wide range available in nurseries and online. If you have limited space for propagating your own, then this could be an ideal option. Or if you're going on vacation, or a slug comes along and eats all of your new seedlings.

Sprouting seed germination test

If you have an old seed packet and are wondering whether it will still grow, this simple test will give you an idea of its viability. It will save you from wasting time sowing rows of seeds that have no chance of growing.

Try a small sample rather than the whole packet. I usually use ten seeds because it makes working out the germination rate really easy. It is a good idea to look up the germination time for the variety so you'll know when they should start sprouting.

You will need:

— seeds
— paper towels—one for each seed variety; alternatives to paper towels include coffee filters or clean cotton squares (such as an old cut-up pillowcase)
— spray bottle of water
— clear plastic bags—one for each seed variety
— waterproof labeling pen

1 Fold the paper towel so it is the right size for your bags, then spray with water until it is damp but not soggy.

2 Place the seeds on top of the paper towel and carefully fold over.

3 Write the seed variety on the bag. Add the expected germination date too.

4 Carefully slide the paper towel inside the bag. Put in a warm place out of direct sunlight.

5 Wait for germination. Timing will vary according to the kind of seed. Make sure the paper towel doesn't dry out; check daily and spray with water to keep moist as needed.

6 Once the seeds start to produce their roots (radicles) and shoots, count how many have sprouted to work out their germination rate.

If none have sprouted a week after the expected germination time, it is likely the seeds are not viable. Add to the compost heap and get some fresh seed.

Working out the germination rate: if you sowed ten seeds and seven sprouted, then the germination rate is a healthy 70 percent. If fewer than 50 percent sprouted, it is better to discard.

These little sprouts can be planted in pots or in the ground if you wish, or added to the compost heap. It’s best not to plant sprouted carrot or parsnip seed as it is more likely to fork (when the roots become misshapen, twisted, or split into two or more sections).

Turn the bags inside out and hang up to dry, to be reused in other garden projects.

Lifespan of seeds from harvest

Type	Approx. seed life (years)
Artichokes	2 to 4
Arugula	3 to 5
Asian greens	3 to 4
Basil	5
Beans	3 to 6
Beets	2 to 3
Borage	3 to 4
Brassicas	3 to 6
Calendula	5
Carrots	3
Celeriac	5
Celery	5 to 6
Chard & leaf beet	2 to 3
Chicory & radicchio	5
Chives	2
Cilantro	5
Cucumbers	10
Dill	5
Eggplant	3 to 4
Fennel	3 to 4
Lettuce	2 to 5
Marigold	5 to 6
Melons	10
Nasturtium	5 to 6
Nigella	5
Onions & leeks	1 to 3
Parsley	2 to 3
Parsnips	2

Type	Approx. seed life (years)
Peas	3 to 5
Peppers	2 to 3
Radishes	5
Spinach	3 to 5
Squash & pumpkins	4 to 5
Sweetcorn	2
Tomatoes	8
Violas	2
Zucchini & summer squash	2 to 4

Choosing, buying & saving seeds

As much as possible, I try to buy organic seed because it supports a more environmentally friendly, chemical-free way of growing. Choosing naturally grown, open-pollinated heirloom seeds helps to increase biodiversity, and you can save the seeds from your crops for the following year too (unless they are prone to cross-pollination), which saves money and resources (see here).

These seeds are more likely to have evolved to adapt to their location and are less likely to mature all at once, which can mean they grow better in home gardens and crop over a longer period. It also increases the range and availability of naturally grown seed. When bought from one of the smaller seed companies, in particular those with traceable origins for their seeds (they know their suppliers and grow many themselves), they are usually fresher and more productive than the big-brand seeds.

Where to source

Organic, open-pollinated, and specialist seeds can be too expensive to be affordable for many, or impossible to buy without Internet access or a credit card. Fortunately, many garden centers offer a useful range of reasonably priced seeds. I have tried many of these and the germination rate is excellent. Another option is to buy in the early fall when they are selling off seeds, often for a few cents per packet. Carrots and parsnips are better sown fresh each year, but I have had reasonable germination (about 50 percent) from both the following year, so if you do buy end of season carrots and parsnips, simply sow twice as many.

Getting together with fellow gardeners and sharing seed packets can reduce costs, too. Community gardens often arrange discounts with seed companies for bulk orders, which are then shared.

Seed swaps can be a great place to obtain seeds for your garden and are a wonderful way of sharing ideas and information, but do check all of the packets—often very out of date seeds are found there and germination could be poor. (Avoid home-saved cucurbit seed see here).

F1 seeds

Sometimes, F1 hybrids are the best option for certain varieties, especially in more difficult locations. I use some F1 seeds because there are particular qualities that I want: less likelihood of bolting (prematurely going to seed) while being suitable for my climate. F1 hybrids are cultivars produced by cross-pollinating two varieties to create seeds with specific qualities, usually uniformity, resilience and vigor. They are not the same as genetically modified seed.

Seed saving

Saving seed is a wonderful way of saving money, increasing self-sufficiency and creating a surplus that can be shared with fellow gardeners. It also enables the creation of landraces: breeding plants that thrive in your location.

Home-saved seed will be fresher and therefore have better germination than seed bought from large companies. You will know it has been produced by healthy plants grown without the use of pesticides or herbicides.

Few of us have enough space to save all of the seed that we might wish to have. Get together with other gardeners, each choosing a few crops to save from. Later in the year, swap and share the seed.

Every plant has different requirements. Some such as peas are unlikely to cross-pollinate and can easily be saved just by allowing some of the crop to mature and dry. Others, such as cucurbits (such as squash and zucchini), cross-pollinate widely and require special techniques to produce seed that resembles the parent fruit. Tomatoes benefit from fermenting for 3 days before drying and storing (see here).

To learn more about seed saving, refer to here.

SOME KEY THINGS TO CONSIDER

— Make sure you are saving seed from open-pollinated (heritage) varieties. Seeds saved from F1 hybrids are unlikely to resemble the parent plant. It is worth noting that much supermarket fruit and vegetables (tomatoes, chilies, sweet peppers) come from F1 hybrids, so do not save their seeds unless you are certain of the variety and source.
— What does the plant need to produce excellent seed? Some plants need to breed with others of their kind to produce healthy seed, whereas others self-pollinate.
— Always choose the healthiest plants for seed. Avoid plants that have gone to seed (bolted) too early.
— Will the plants cross-pollinate with other varieties? If so, find out if this is done by insects or wind, and over how far a distance. Cross-pollination is usually, but not always, a problem when seed saving. Occasionally, it can be a serious problem (see here).
— Is your location right for saving that kind of seed? Is there a long enough growing season for the plant to produce seed? Growing under cover in a greenhouse enables seed saving from plants that don't produce seed outside in areas with a shorter growing season.
— Make sure you have a dry and airy place for drying the seeds before storing. An airing cupboard is ideal in damper climates.
— Ensure that the seed is perfectly dry before storing. Remember to label it!
— Store seed somewhere frost-free, dark, without great fluctuations of temperature and away from pests. I once lost an entire harvest of sunflower seeds to hungry mice.

Tomato seed saving

Saving tomato seeds is very easy. Only save seeds from heritage (open pollinated varieties) not F1 hybrids as they will not come true.

You will need:

— tomato
— jar
— cheesecloth
— spoon
— sieve
— plate
— envelope

1 Choose a healthy ripe tomato. Squeeze the juice and seeds into a jar and label.

2 Cover with cheesecloth (to prevent flies getting in) and leave to ferment for 3 days. It will look moldy.

3 Remove any seeds that are floating at the top with a spoon and discard.

4 Pour water into the jar and strain through a strainer several times to clean off the pulp.

5 Put the strained seeds on a clean plate, label and leave to dry.

6 When completely dry, store in a labeled paper envelope in a cool, dry place.

When to sow

To grow into healthy plants, seedlings need moisture, warmth and light. During the short, dark days of winter, growth almost stops entirely and there are not enough hours of daylight for plants to thrive. With the increased popularity of social media, there is often something of a mad rush to get sowing as early as possible. Driven perhaps by a desire to make content, or just by naive enthusiasm, we see bright images of new growth. But there is no rush. Put the seed packets back in the cupboard.

The right timing is key

Most seeds sown during the winter will not thrive unless under specific conditions with grow lights and heat mats. There just isn't enough light for them to develop healthily. Seedlings and plants become "leggy"—weakened and elongated as they search for the light they need to flourish—and far more susceptible to pests and diseases. Many will simply collapse and die. Rather than bringing joy and abundance, sowing too early can bring stress and disappointment.

Another problem with sowing too early is having enough room to grow tender plants such as tomatoes, which cannot go into a greenhouse until the danger of frost has passed. Most of us do not have heated greenhouses or lots of warm windowsill space.

There are some exceptions. For large bulbs, start onion seeds in mid-winter, sown into trays on gentle warmth in the greenhouse or on a warm windowsill indoors. They require warmth to sprout so it is much too early to sow outside. Once they have germinated, they are fine growing slowly in a cool greenhouse or cold frame until they can be planted out in early to mid-spring. Sow eggplants, chilies, and sweet peppers in midwinter in order for them to be large enough to crop properly before the end of fall. They are a long-term commitment, requiring warmth and light to thrive. I love to grow many varieties of eggplant, which I start on heat mats in the greenhouse. But I need to take into account that it will be late spring before they can be planted into the hoop house, and must make sure I have enough

protected space to continue to grow them. Electric grow lights and heat mats are expensive to run. For off-grid options see here.

In late winter something marvelous happens: daylight passes 10 hours a day. This boosts plant growth and you can feel the change of energy in the air. Every day will be a little lighter until the summer solstice. Seeds sown now will be healthier with more vigor. This doesn't mean that it's a good idea to sow everything immediately. Wait until mid-spring for tender plants such as fast-growing French beans, sweetcorn, melons, and cucumbers, which will be killed by a frost.

Seed packet sowing times are usually not a good indication of the best time to sow. Packaged for a wide market, they need to take into account variations in climate.

Frost dates are important for all frost-sensitive plants, including potatoes, tomatoes, beans, and melons. Hardier plants can cope with some frosty weather, but it is advisable to use crop protection for the first few weeks after planting out transplants, to reduce planting shock and help them thrive. Talk with experienced neighbors to discover your frost dates, while bearing in mind that this is just a guide and they can vary from year to year. There are useful online resources with USDA hardiness zones, which can offer information about frost dates, but again these provide guidance rather than clear timings. It is always a good idea to keep an eye on your local weather forecast and have crop protection ready should there be unexpected cold weather.

See also the sowing guides on these page.

Sowing depth of seeds in seed trays and pots

Sow seeds approximately the same depth as their size. Tiny seeds should be barely covered by compost—propagation medium, or growing medium—whereas larger seeds such as peas and beans need to be covered by about ⅓–⅔ inch.

Sowing under cover

“Under cover” means in a greenhouse, cold frame, cloche, or other protected area such as a windowsill or bright potting shed window. Alternatively, for those with little access to natural light, you can make an indoor growing station using grow lights and reflective sheets.

Why sow under cover?

While it is perfectly possible to direct-sow most plants—which saves compost and time because there’s no seed saving in trays or pots—it is best to wait until the weather warms up in spring. When the soil is cold, damp, or frozen, there is little that can be direct sown, and sowing under cover into trays will add weeks to the growing season. You can raise healthy seedlings while weather conditions outside are still too cold for germination, ready to transplant outside once the weather is milder.

This significantly increases the amount you can grow in each bed each year, and allows for earlier harvests. Sowing under cover also means you can grow plants such as tomatoes, peppers, and chilies which would not produce a crop if they were direct sown in early summer.

Transplants are more resistant to pests. For example, a lettuce transplant 2 inches tall is far more resistant to slug attacks than a newly germinated seedling. The slug may eat a leaf or two of the transplant but the rest can keep growing, whereas a munched seedling is gone forever. Transplants make techniques such as intercropping (see here) a lot easier too.

Equipment for sowing

There is no need for fancy propagation equipment. Much of what you require can be put together from odds and ends around the house.

Compost tray: You can buy manufactured compost trays designed to keep the propagation bench tidy and to reduce spillage. Alternatives include a simple plastic kitchen tray (mine is from a charity shop) or an opened up compost sack. Any spilled compost can easily be returned to the sack, reducing wastage.

Seed starting trays: Useful for multi-sowing seeds, individually sowing larger seeds, and transplanting seedlings. Ideal for growing on healthy transplants.

They come in a range of sizes and various cell counts. It is worth buying well-made ones that can last for years; avoid flimsy inserts which barely last a season. Garden center bargain bins are a useful source of pre-used seed trays, pots, and other propagation supplies.

Plastic-free trays include natural rubber (which last for years) or single-use biodegradable coir or cardboard. Another plastic-free option is to buy “soil blockers.” These create small cubes of compost for sowing and transplanting. Homemade alternatives include paper pots, toilet paper tubes and upcycled ice cube trays with holes made in the bottom.

Seed and potting compost (propagation medium): Today there are a wide range of peat-free seed and potting composts (also called seed starting mix, seed starter, or potting mix), including mixes with no animal products. Some can be a bit lumpy. To remedy this, sieve the compost into a large trug using a garden sieve or large colander; pop the lumpy bits in the compost heap and pour the compost back into its sack.

Clear propagation lids/domes: These come in a range of sizes and help to create the perfect environment for germinating seedings. They can also help to deter slugs, woodlice or rodents. Made from solid plastic, they can last many years. Homemade alternatives include using clear plastic food packaging, clear bottles, bubble wrap or sheets of glass. Traditionally, glass cloches would have been common. For an upcycled version, use inverted glass jars, clear glass dishes, or bell domes from cake stands/cheese dishes. On bright days always remove the cloches to avoid scorching the plants.

Mini dibber: Invaluable for transplanting. I use a small pencil.

Plant pots: It’s worth having a variety of sizes for potting. Plastic plant pots are easy to get secondhand, usually free, which keeps them out of landfill. Traditional terracotta and stoneware pots are lovely, but they dry out more quickly than plastic, so need more watering.

Upcycle old household items into pots by drilling drainage holes into the bottom. Strong paper envelopes or folded newspaper make a biodegradable alternative. Alternatively, buy biodegradable pots made from wool and other natural fibers, or make your own. Old jeans can be sown into containers for growing potatoes. Knit or crochet pots of various sizes out of cotton string or wool yarn.

Homemade seed compost mixes

Seed compost mixes do not need to be high in nutrients. I make my mixes by volume, so it doesn't matter what you use to measure the quantities (I have an old jug) as long as it is the same for each ingredient. Using soil or homemade compost does carry the risk of some weed seeds or pathogens. I prefer not to kill the life in the compost or soil by sterilizing it. Any germinating weeds will be easy to spot as they will look different to the seeds that you've sown and can just be pulled out.

Soil-free recipe

You will need:

— two parts homemade compost, sifted to remove lumps
— two parts leaf mold or rehydrated coconut coir
— one part horticultural sand (*not* builders' sand)

Mix together and store in an old compost sack or lidded bucket.

Soil-based recipe

You will need:

— one part leaf mold or rehydrated coir
— one part soil (if you can get it, molehill soil is perfect for this, pictured right)

Sift into a container, mix and store.

Homemade potting compost mix

A more nutritious mix for potting up transplants.

You will need:

— one part leaf mold or rehydrated coir
— one part homemade compost
— one part soil

Sift all of the ingredients into a large container, mix and store.

How to sow intensively in a seed tray

It saves space and is more economical to sow many different varieties into one seed tray. This is how I sow eighteen or even twenty seed varieties in one standard-size tray.

You will need:

— seed tray
— compost
— labels
— seeds

1 Fill the seed tray about two-thirds full with compost and pat down firmly. This is important: seeds like to grow in firm compost. If it is too loose and fluffy, they may fall over.

2 Water using a fine spray and leave to drain.

3 Using your fingers, make indentions across the width of the seed tray, leaving a small gap between each one. This is where you'll sow the seeds. I can usually fit nine or ten rows across the tray.

4 Next, make a divider across the length of the seed tray down the middle, using old labels or wooden lollipop sticks. This doubles the sowing area.

5 Write the plant labels and sow the seeds, being sure to label each groove with the variety.

6 Sprinkle a layer of compost on top and cover with a propagation lid.

How to fill a seed tray

Whether you're using the seed tray to sow seeds or transplant, it is important to press the compost down and make sure that each cell is full. This will give the seeds the perfect environment for growing in and make beautiful root balls that hold together when it is time to plant or pot them. Fill the cells with compost and press down with your fingers. Add more compost and press again. Continue until every cell is full, then water and leave to drain before using.

Multi-sowing in cells

Multi-sowing involves sowing multiple seeds, usually of the same variety, in one cell and growing the plants together. It is a fantastic way of starting off many kinds of vegetables, herbs, and flowers. This ancient technique uses less compost and takes up less space than growing individually. You sow three to ten seeds per cell, depending on the type of plant.

Once they are big enough, the transplants are planted out in little clumps to grow together. This saves space in the garden and acts as companion planting. It also seems to help make the plants more resilient to pests, as they thrive by growing together.

See the chart opposite for some suggested multisowings into trays for herbs and vegetables. Thin to the recommended number of seedlings per cluster if necessary.

When the seedlings are 2–3 inches tall, they are ready to plant. Pop each clump out of the tray and plant in the soil using a dibber or small trowel.

For many vegetables, such as beets, leeks, or turnips, you can harvest individual plants from the clump, leaving the rest to grow in the tray. This saves a lot of sowing and planting time. I find that beets sown in mid-spring are still growing in early spring of the following year!

Transplanting seedlings

Starting seeds in trays and pots is a great way to maximize space under cover, especially heated areas, and save on compost. You can sow many different kinds of seeds in one tray. But once seedlings are big enough, they need transplanting into their own cell or pot to grow into healthy plants. Transplanting when seedlings still have their baby leaves (called cotyledons), just before the true leaves emerge, can help to prevent transplant shock and encourages healthy growth.

Multi-sowing guide

Herb/vegetable	Seedlings per cluster	Spacing between plants (in)
basil	2	8
beet	4–5	12
cilantro	2	8
dill	2	8
leeks	3	12
onions: bulbing	4–5	12
onions: spring/salad	6–7	8
peas	3	6
radishes	3	6
salad greens*	2	8
spinach	2	8
turnips	3	12

** salad greens—Asian greens, chard, kale and other leaves grown to pick small as salad rather than as a large, mature plant.*

Fill pots or seed trays with multipurpose potting compost, tamping down, and refilling until the compost is firm. Water and leave to drain for a few moments.

Using a pencil or small dibber, carefully loosen the seedlings. There is a debate about the best way to handle seedlings: by the leaves or the stems? Both ways are fine, but leaves are more robust and a damaged leaf can regrow, whereas stems are easily crushed. If you are very careful, holding by the stem works (I do it this way), but most prefer to handle seedlings by their leaves.

Make holes in the tray or pots with the pencil, and carefully transfer the seedlings into the holes, using the pencil to gently guide the roots and stem. Plant the seedlings just below their cotyledons, so they can grow into sturdy plants. Place in a warm, light place to grow.

This method of planting seedlings to a depth just below their leaves also helps to rescue seedlings that have become leggy.

Thigmomorphogenesis

Thigmomorphogenesis is a remarkably long word for a simple, calming way to encourage healthy, strong growth of seedlings and young plants grown under cover in greenhouses and on windowsills, and to reduce legginess. Gently stroke your fingertips across the seedlings, repeating the motion several times. This mimics the effects of wind and passing insects and other wildlife, triggering a response in the plants that causes them to grow stockier.

Thigmomorphogenesis works for all kinds of plants, and gives you an opportunity to check for pests, plant health, whether they need watering and so on. (Avoid stroking any plants that can cause skin sensitivity if you have allergies.)

Propagation areas

A propagation area expands the range of plants that you can grow at home. I mostly start my plants in the greenhouse, but a sunny windowsill can easily become a suitable place for starting your seeds. A sturdy table is ideal, with something on top such as a tray or opened-out compost sack, so that any spilled compost can be gathered up and reused.

In cooler, temperate climates with a relatively short growing season, seedling heat mats enable home gardeners to grow a much wider range of plants over a longer period of time. Many seeds require temperatures of 64–68°F to germinate, rotting if the soil is too cool. Heat mats enable us to start sowing much earlier in the year, crucial for slow-growing plants such as eggplant or chilies. They also ensure that frost-sensitive plants are kept warm enough to thrive during early spring.

Capillary matting is an absorbent material spread over potting benches or inside plant trays that soaks up water, acting as a reservoir for the plants. It reduces the need to water, saving time, and is invaluable during periods of hot weather. This is especially helpful if your main growing spaces are away from home at a community garden. You can buy rolls of ready-made capillary mats or make your own (see here).

A lighting system is another valuable tool for the home grower to extend the season. This can be homemade or a specially manufactured grow light. This will increase the number of growing hours each day, especially during early spring and fall, and reduce legginess as seedlings seek the light. It is important to ensure that any electrical parts are kept well away from water.

Hotbeds create a warm growing space to enable earlier sowings and crops, and also to grow exotic plants such as pineapples. The heat is created by microbial activity as the materials used to create the hotbed —usually fresh animal manure—break down and ferment. A more accessible plant-based alternative is grass clippings piled up with weeds; add some human urine to help speed up the process. Hotbeds

can be used under cover (such as a hoop house) or outside, where the addition of a cold frame on top helps to keep the plants warm.

How to make an off-grid, DIY heated tray for seedlings

Here's how to make a simple heated system that uses no electricity, perfect in a greenhouse or cold frame or on a windowsill. Easy to assemble and move, it is a practical and thrifty solution to the problem of keeping seedlings warm using household items.

You will need:

— a container large enough to fit your seed tray—I'm using old mushroom trays
— bubble wrap or other insulating material
— a hot water bottle—mine is rubber
— transparent plastic food containers (optional)

1 If your tray will be in your home or another place where watering may be an issue, use a solid tray instead of or underneath the mushroom crate to prevent spills. Alternatively, line the mushroom tray with a sheet of thick polyethylene, such as an opened-out compost sack.

2 Place a sheet of bubble wrap into the crate/tray.

3 Carefully fill the hot water bottle with hot water and place on top of the bubble wrap. For extra insulation, wrap the hot water bottle in an old sweater or towel first.

4 Place another layer of bubble wrap on top. Next, put the seed tray on the top layer of the bubble wrap.

5 For extra protection, cover with another layer of bubble wrap or use clear plastic food packaging trays as mini cloches, or a sheet of clear polyethylene (such as an opened-out plastic bag or hoop house offcuts). This helps to keep cold air off your seedlings on frosty nights.

And that's it—your heated system is ready.

The hot water bottle will need refilling at least once a day. If you're only using it to keep seeds warm at night, replenish it in the late afternoon

every day. If the daytime temperatures are very low, refill every morning and afternoon.

What about all this plastic?

We are all trying to use as little plastic as possible, but this project uses pre-used plastic items that are waste products rather than bought new. I save all good-size sheets of bubble wrap that arrive as mail-order packaging. They are so useful in the garden for keeping plants warm, insulating the greenhouse, making emergency repairs on greenhouse glass and more. Stored carefully, bubble wrap will last for a long time and is both insulating and waterproof.

For plastic-free alternatives to bubble wrap, use anything that is thick and insulates: newspaper, blankets, towels, wool sweaters, or scarves. Washed at a high temperature, wool shrinks and is useful for many upcycling projects (this only works for pure wool, not synthetic mixes).

Homemade capillary matting

Capillary matting is a fabric that absorbs and holds moisture, distributing it across the whole surface area. It helps to reduce watering and is invaluable for seed starting. While you can buy capillary matting by the foot in rolls, it is very easy to make your own out of one of the following:

You will need:

— old wool blankets: fold in half or cut to size
— old wool sweaters: these are ideal for smaller spaces and work even better if they have been boiled first to “felt” them
— for a quick, temporary option (useful if you’re going away for a few days and there is no one available to water your plants), try newspaper

Cover propagation areas, or line your plant trays, with your chosen material. If using newspaper, spread ten to twelve layers, soak well and place the plants on top. The newspaper mat will eventually degrade and can be added to the compost bin.

Off-grid reflector for seed starting

A light reflector box has a shiny surface that reflects light evenly, helping to grow sturdy, healthy plants indoors. It is simple to make and can last for years: you just need a cardboard box large enough to fit your tray(s) in, some glue or tape, and a shiny material such as aluminum foil. First, remove one side of the box with a pair of scissors. Cover the inside of the box with the foil, holding in place with glue or tape.

Place the box on a windowsill with the open side facing the source of light and put the seed trays inside (remember to use a drip tray for watering).

Hotbeds

Traditional hotbeds are usually made from stacking fresh animal manure and some bedding into a framework similar to a pallet compost bin. You can also use grass clippings, wood chips, old clothes, sheep fleece (especially the "dags"—soiled parts of the fleece), or weeds. These materials take longer to heat up and break down, so start a few weeks before you want to use the hotbed, add urine and turn a few times to really get it heating up. Manure-based heaps can be used right away. In spring a hotbed can be built under cover in a greenhouse to provide warmth for seedlings and transplants.

You will need:

— a simple frame approximately 3 × 3 feet made out of boards or pallets lined with plastic (such as old compost sacks opened out) or cardboard
— your chosen filling: fresh manure and straw are ideal

1 Fill up the hotbed, pressing down on the top to compact the layers so you can add as much as possible. This will make the heat last longer. Add some water if it appears to be too dry.

2 Place a pallet on top and put your seed trays and pots on top of the pallet.

3 You may need to top up the hotbed with some more manure after a month, as the bed sinks a bit.

4 In late spring, empty the contents into a heap outside and use it to grow squashes and zucchini.

When using a manure and animal bedding hotbed under cover in a greenhouse, make sure the ventilation is good to reduce the risk of problems caused by the release of ammonia as the materials break down.

Another version is the outdoor hotbed. This is made to bring on earlier harvests.

You will need:

— wood lengths cut to your desired size (see below)
— fresh manure and a selection of other materials, including wood chips, grass clippings, old sweaters, pet bedding
— compost
— seeds to plant
— cloche (see here)

1 Make a structure with wooden sides, as long and wide as you wish but at least 3 feet deep.

2 Fill with fresh manure and your other materials to 12 inches below the top of the sides.

3 Next add 8 inches of compost. This is what your plants will grow in.

4 Sow or plant radishes, beets, spring onions, turnips, stubby carrots, strawberries, salad leaves, and other greens.

5 Construct a cloche cover and cover with a double layer of insulating material.

The warmth from the composting materials will enable earlier harvests and, once picked, you can use the bed later in summer to grow eggplant, squashes, or zucchini.

Propagation in the garden

It’s time to get our fingers in the soil outside. Nature, of course, sows, grows and reproduces in the garden, and we can work with her to grow a bountiful, productive garden.

Planting

The right conditions for planting your homegrown or purchased starts vary according to variety. Check for frost hardiness, and whether they can be directly planted, such as cabbages or kale, or are best grown in pots until larger and the last frost date has passed, such as zucchini or squash.

You will also need to check their spacing requirements, how far they need to be from other plants in order to thrive, and any specific growing conditions, such as full sun or partial shade.

A dibber is an excellent tool for planting in the garden. It is essentially a piece of wood with a handle, and is traditionally made from a replacement garden spade handle. Cut to the right length for your height: you want to be able to make holes by bending a little and pushing into the soil. Taper the end with sandpaper.

Push the dibber into the soil just a little deeper than the root ball. After making the holes, place the starts into the ground and firm in with your fingers. Water well.

For potted plants use a trowel, making a hole slightly bigger than the pot, firm in, and water well.

Direct sowing

Direct sowing, where the seed is sown straight into the soil, saves time and compost. Some vegetables such as radishes, carrots, and parsnips are usually sown where they are to grow, whereas others such as leeks and brassicas are sown and then transplanted into their final growing position when they are larger.

Although most plants can be direct sown, this does make them more vulnerable to weather conditions and pests such as slugs and rodents. Most

seeds won’t germinate if the soil temperature is less than 45°F, so it is helpful to warm the soil in the spring for a few weeks with black plastic, fleece, or cloches before sowing.

To direct sow, make a shallow trench using a hoe, trowel or dibber, and water the trench. Carefully sow the seed thinly and evenly. Check the variety for the proper spacing—it will say on the packet. Cover with a thin layer of soil. Keep the rows damp, remembering to water if the weather is very dry.

If the seedlings emerge too close together, thin out to the right distance by removing the spares.

Propagation by division

This is usually done in the spring or fall, and is a way of propagating perennials such as lemongrass, rhubarb and mint. It helps to reinvigorate the parent plants, keeping them healthier, as well as providing the gardener with lots of free plants. Dig up the clump and divide using a spade or sharp knife. Replant in a new place, or put into pots to grow.

Propagation by layering

Layering is a simple way of propagating plants when they are still attached to their parent plant. It is ideal for creeping plants such as strawberries, blackberries, and hybrid berries. To layer these soft fruit, poke the tip of a shoot (or runner for strawberries) into the ground about 6 inches deep and peg down. This will form roots and once it is growing as a healthy looking plant, separate it from the parent with a sharp knife, and either leave it in place to grow or dig up and transplant.

Propagating with cuttings

An easy way to propagate fruit bushes is to take hardwood cuttings. Winter is the perfect time to do this, when the plants are dormant. You can use this method to produce new gooseberries, blackcurrants, redcurrants, and whitecurrants.

Choose healthy plants, avoiding any that are very old, badly pest damaged, or diseased. I always take more cuttings than I need. Not all of them will root, and any spares can be potted and given away.

The stems should be about the thickness of a pencil and woody. Using clean snips, take cuttings at least 12 inches long from the base of the bush. Make a horizontal cut just below a bud; this will be the base of the cutting, where the roots will develop. Next, make a diagonal cut above a bud, so that you have a stem 8–10 inches long.

Using a pencil as a dibber, plant each cutting in the ground so that only a third is above the ground, and space them about 6 inches apart. Choose a location that is free draining; the cuttings will rot if waterlogged. Remember to label them if you are taking cuttings from more than one variety. Alternatively, plant them in pots, again two-thirds deep, four to five cuttings per pot. They will need some protection, such as a cloche. The cuttings can take up to a year to form roots. When the roots have formed, gently pull up and plant in their permanent location around 3–5 feet apart.

MANAGING YOUR GARDEN

In order to have a productive garden, it is important to make time for the regular maintenance that keeps it flourishing. This can seem arduous and annoying, but it is worth seeing these tasks for the pleasurable jobs that they are. Caring for a garden, even just a small plot or a few containers, connects us with the seasons and nature.

How much time you spend will depend on your garden's location and your other commitments. What we are looking for is a productive balance between plants to eat, our own enjoyment and flourishing wildlife. Inspiring plots on social media may look beautiful, but they are usually perfectly maintained because they are the work of a team behind the scenes or someone with a large budget.

Most of us fit growing alongside work and family. If you have places where weeds are growing or which you've not gotten around to because you have been too busy, don't feel disheartened. Call them "wildlife areas" and enjoy your growing space.

Essential maintenance tasks

In addition to knowing the right times for sowing and planting, to create a thriving, abundant garden it is important to maintain the plot. There is a seasonality to this too.

Time of year

Winter, when the garden is mostly dormant, is the ideal time for under-cover jobs like maintaining and repairing tools, checking supplies such as compost, pots, labels, string, and seed trays, and ordering seeds. Outdoors, you can prune fruit trees (except stone fruit) and fruit bushes, and mulch the vegetable beds.

In the spring, as well as sowing and planting, it's time to start regular weeding to keep the plot clear. Ensure rain barrels are clean and ready to use, and water under-cover and newly planted crops.

Weeding continues through the summer. If the weather is dry, mulching the beds when they are moist and before they dry out will help to reduce (though probably not eliminate) watering. Remember to keep pots watered. Prune stone fruit in early summer.

In the fall, check garden buildings and repair before winter sets in. Clean the greenhouse to let light through. There is still weeding to be done. Cut down summer-fruiting raspberry canes.

Harvesting in a productive garden is year-round. There's always something to pick and enjoy.

Watering

All plants need water—to a greater or lesser extent—to thrive. Each has different requirements and it is worth discovering the conditions your plants need. Celeriac, for example, needs plenty of water to grow its large edible roots (actually a swollen stem), whereas rosemary is drought-tolerant.

All plants under cover in seed trays and small pots need regular checking (daily during hot periods) to ensure they remain moist. Shading and capillary matting can help maintain moisture. A good way to check whether

a potted plant needs water is to pick it up; if it feels heavy, it's likely to have enough. Alternatively, a finger stuck deep into the compost will give a clue.

Plants need watering after direct sowing and planting. During dry periods, very young transplants will need extra water to prevent them from dying or bolting, but once established most plants growing outside don't need extra water unless there are drought conditions.

Under cover, such as inside greenhouses where rainwater does not penetrate, plants will likely need to be watered once a week during the warm months, and about once a month during the winter until growth starts in earnest again in late winter/early spring.

Always try to water in the morning or evening, so there is less evaporation. During dry periods, mulches such as grass clippings, comfrey leaves, or chop and drop help to lock moisture in the ground and reduce evaporation. No-dig beds are naturally more water retentive because the soil structure has not been damaged.

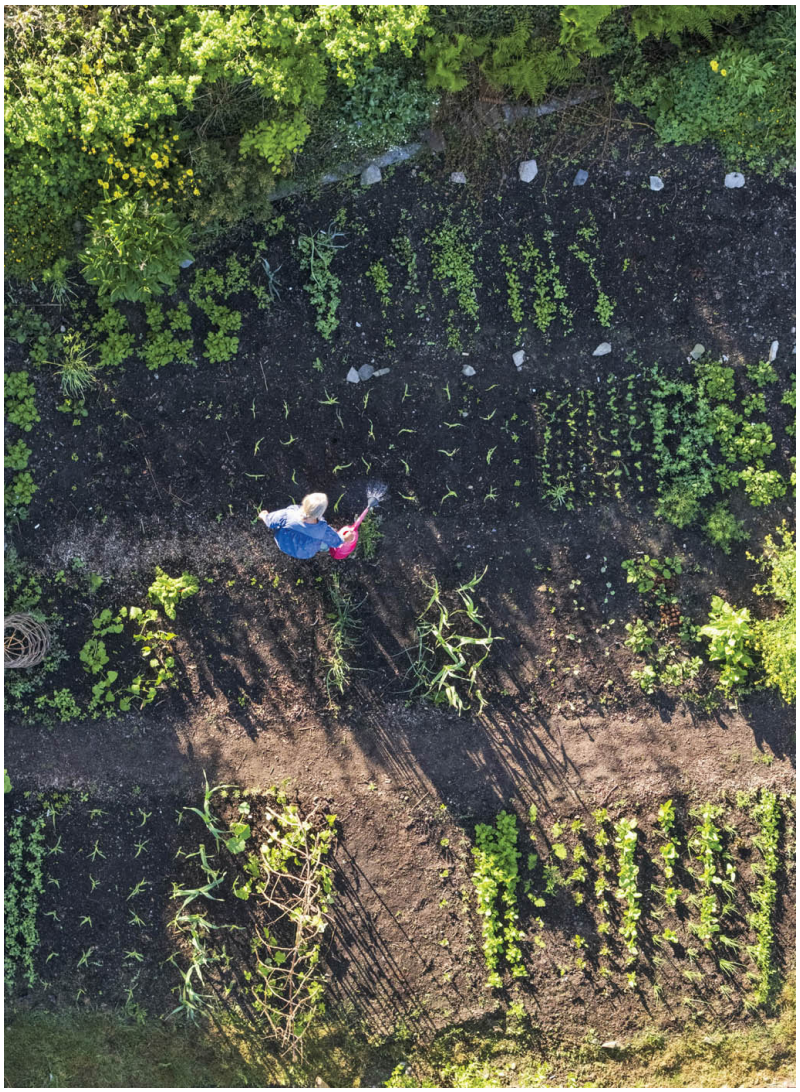
Weeding

There is a traditional country saying: "If you hoe when you have no weeds, you'll have no weeds." No-dig gardening helps to reduce weeds, because the weed seeds buried in the soil do not get to germinate, but weeds can still appear blown by the wind, from bird droppings, or creeping in from the edges.

Regular hoeing is an effective way of ensuring that the vegetable garden doesn't get overrun with weeds. Even if you can't see any weeds, running over with the hoe will remove any that are just emerging, keeping the plot easy to maintain. There are many different kinds of hoe to choose from. My favorite is an oscillating hoe, with a blade that swings a little as it is moved up and down the bed. With a long handle, this task can be accomplished standing up and is very quick. A small hand hoe is useful in between transplanted leeks and other small plants.

Perennial weeds such as bindweed, quackgrass, creeping buttercup and nettles need to be removed with a spade, trowel, or hori hori. They can also be composted if the compost heap is a solid structure without lots of gaps, and the light is blocked to keep it dark. Alternatively, place in a bucket of

water for a week to let them rot, and then pour the smelly brew onto the heap.



Regular edging of the plot, using a half-moon edger or spade, helps to keep grass and weeds from moving in from surrounding areas.

Maintain container-grown plants by weeding with hand tools. If a container gets overrun with weeds, often the simplest solution is to tip the root ball out, carefully wiggle out the weeds, replace the plant and mulch with a little compost.

Mulches such as sheep fleece, leaves, and grass clippings can help to suppress weeds but can also create a slug habitat, so are best used on plants that are not susceptible or in areas where slugs are not an issue.

Removing debris

Older, decaying leaves discarded by plants are a natural part of the ecosystem and will gradually decompose into the soil. They will, however, attract slugs, snails, and other key nutrient recyclers, which can also munch on healthy plants. To avoid this problem in beds filled with tender annual vegetables, regularly “tidy” the plot by removing diseased, old and decaying leaves to the compost heap. This is not about aiming for perfection, but rather about reducing the number of creatures that nibble our food. It is also a good opportunity to check your plants’ overall health.

During winter, when the nutrient recycling creatures are less active, leaving discarded leaves can help to protect the soil from extremes of weather. Place any that have not decomposed into the compost before planting out tender annuals in the spring.

Pruning and deadheading

Fruit trees, fruit bushes, roses, and bushy kinds of herbs benefit from pruning to keep the plant healthy, productive, and in shape. Each plant has its own requirements and season for pruning.

Use snips or pruning saws to tidy overgrown shrubs and fruit bushes. If you have brambles (raspberries and blackberries) next to the garden, regular pruning will help prevent this very enthusiastic plant from taking over.

Many flowering plants benefit from regular deadheading—removing dead or dying flowers. It keeps them looking more attractive and also encourages more flowers over a longer growing season.

Mulching

Mulching has many benefits depending on the time of year, including protecting from frost, reducing evaporation of water from the soil, feeding the soil and plants, and reducing weeds. It also adds to the garden’s attractiveness. Mulches are discussed in more detail in Chapter 2.

Garden structures

As part of regular garden maintenance, check all sheds, greenhouses, and other garden structures for signs of damage, especially after periods of bad weather. Keep gutters clear and ensure that roofs are not damaged.

Repairing any damage quickly can save a lot of work. If you have a hoop house, always keep a roll of polyethylene tape on hand to quickly repair small tears, preventing them from becoming a major problem.

Tools

Keep all tools clean, oiled and, if appropriate, sharp. Check that the batteries for power tools are fully charged and any supplies such as string trimmer line are in supply. This avoids the frustration of heading out to the garden only to discover drained batteries, missing parts or rusty tools.

Cross-pollination

Flowering plants mostly reproduce from seed. Pollination usually results in seed with the same characteristics as the parent. Some varieties, however, are likely to cross-pollinate, where a plant pollinates another of a different variety within the same species.

When this occurs, it does not usually affect the plants themselves or their fruits, but will be discovered the following year when the seeds are grown. An exception is sweetcorn, which can cross-pollinate over a wide area with the effects noticed the same year. A yellow corn variety cross-pollinating with a red variety can produce cobs with kernels of both yellow and red that year; it can also affect the flavor.

Some plants pollinate themselves and are less likely to cross-pollinate, such as beans, peas, and tomatoes. Those more likely to cross-pollinate include brassicas, zucchini, and squash. Wind-pollinated plants—including beets, carrots, spinach, sweetcorn, and Swiss chard—can cross-pollinate.

Cross-pollination is not usually a problem unless saving seed. Even then, the seed can result in a new variety with greater resilience and adaptability due to genetic diversity or enhanced suitability to the local environment.

Cucurbits

A key exception is cucurbits. Zucchini, pumpkins, and squash cross-pollinate easily with other members of the cucurbit family, including non-edible ornamental gourds. These plants are pollinated by bees covering very wide distances. In order to prevent cross-pollination, they need to be separated from other cucurbits by at least half a mile: they will cross-pollinate with compatible plants not only in your garden, but in those of your neighbors and beyond. The only way to stop this is to cover the flowers so that no insects at all (literally none!) can get to them and hand-pollinate yourself.

This is why saving your own seeds from cucurbits is not advised. While usually you just end up with mediocre vegetables the following year,

occasionally they can be harmful. This is because they can contain too much of the toxin cucurbitacin, which makes the plant taste bitter and can cause unpleasant symptoms of food poisoning, and very occasionally death. Never eat bitter tasting cucurbits.

Don’t save seeds from homegrown or store-bought cucurbits, and avoid them at seed swaps. It is, of course, fine to eat the fruit and seeds of your homegrown zucchini, pumpkins, and squash. The problem occurs the following year, if the seeds are sown.

Common pests & diseases

Even the most cared for garden will have pests and diseases from time to time. In the past, there was something of a "death to all things" attitude toward dealing with pests, but fortunately we now know that creatures commonly referred to as pests are in fact a vital part of the ecosystem. However, the key is achieving a balance. Too many slugs and it is difficult to grow many things; not enough slugs and the creatures that feed on them will suffer.

I take an organic holistic approach to pests and diseases, encouraging biodiversity to make the garden more resilient. "Working with nature" in Chapter 2 explains some of the ways I encourage a rich ecosystem that helps to maintain a healthy garden. Healthy soil, good ventilation, creating different wildlife habitats, and growing a wide variety of plants all help to reduce the likelihood of problems with pests or diseases. Barrier methods such as fine meshes to protect plants against caterpillars and other small insects are a safe eco-friendly way to reduce problems. (See right photo for the perils of leaving your brassica unprotected and at the mercy of caterpillars).

Pests

SLUGS AND SNAILS

Quite possibly the number one pest in the UK, slugs and snails are found throughout the world and are one of the most easily recognized pests. Since these slithery creatures mostly feed at night, try to water beds in the morning.

Encourage predators including ground beetles, toads, moles, voles, and birds to keep numbers down. Ducks love slugs, they can't eat enough of them.

Minimize damage to newly planted crops by patrolling beds at dusk with a flashlight to collect slugs and snails. Place in a bucket and relocate in a wild area. Placing a plank of wood near the beds provides a place for them to hide during the day; lift the wood to remove and relocate.

Some physical barriers can sometimes work, including copper rings or stems of very prickly plants like roses. There are products made from sheep fleece that are too scratchy for slugs and snails to comfortably slither over.

Avoid slug pellets: even organic ones are harmful to the ecosystem. Never use beer traps, which can also trap and drown beneficial predators of slugs like black beetles.

APHIDS

Aphids are tiny creatures that suck plant sap. The most common include cabbage aphids that feed on members of the brassica family and black aphids that feed on beans. Mostly, the damage caused is minimal. Occasionally, a serious infestation can cause harm.

Aphids are a useful source of food, especially for the chicks of small garden birds, so if the infestation is minimal, just leave them for nature to sort out. Predators include small birds, hover flies, ladybugs, parasitic wasps, and lacewings. Growing plants to attract these insects (see Chapter 2) will help to keep aphid numbers in check. If you do need to remove the aphids, a damp cloth wiped over the plant will do the job, or spray water with a garden hose to dislodge them. Never use soap-based sprays, which will harm beneficial predators.

FLEA BEETLES

These tiny beetles chew holes in brassica leaves, and can kill small plants or ruin larger crops. They have become an increasing problem in recent years.

Fine garden mesh laid over a cloche and firmly pegged down will prevent flea beetles from accessing the plants. Do this from the time of planting until late fall when numbers usually decline.

Grow plants to encourage their predators, which include lacewings and parasitic wasps. Flea beetles love mustard. Plant clumps of mustard as a decoy to attract them away from the other brassicas.

FUNGUS GNATS

Fungus gnats are tiny adult sciarid flies seen moving about on the surface of compost. They thrive in damp environments. The adults are annoying but not a problem; however, their larvae feed on roots, causing seedlings to rot and die.

Prevent attacks by keeping compost sacks firmly closed. If gnats are present in potted plants, a layer of fine grit on the surface of the compost prevents the adults from laying their eggs. Avoid overwatering seed trays and allow the top layer of compost to dry out between watering.

Carnivorous plants such as sundews are a natural way of reducing gnat populations. For very severe outbreaks, biological controls are available to buy.

CABBAGE MAGGOT

The larvae of cabbage root fly feed on the roots of brassicas, causing seedlings and newly planted transplants to wilt and die. The larvae overwinter in the soil, so it helps to practice crop rotation and grow brassicas in a different bed the following year. Predators include hedgehogs, birds, and ground beetles.

Place a collar made from cardboard, cut into a circle or square about 6 inches across, around the brassica stem after planting to prevent the fly from laying her eggs. Alternatively, cover with a fine insect mesh.

CARROT RUST FLY

Carrot rust fly (carrot root fly) affects parsnips, celery, dill, parsley, and fennel as well as carrots. Maggots feed on root hairs before tunneling into the roots. This can stunt plants, and also create areas of damage, but rarely kills them. Infected plants are perfectly edible; just cut off the damaged areas before eating.

The larvae can overwinter in the soil, so if carrot rust fly is present, practice crop rotation. During winter, foraging birds can help to significantly reduce numbers.

If there is a rust fly problem, grow susceptible crops under fine-mesh insect netting. There are also several resistant varieties available from seed companies.

Diseases

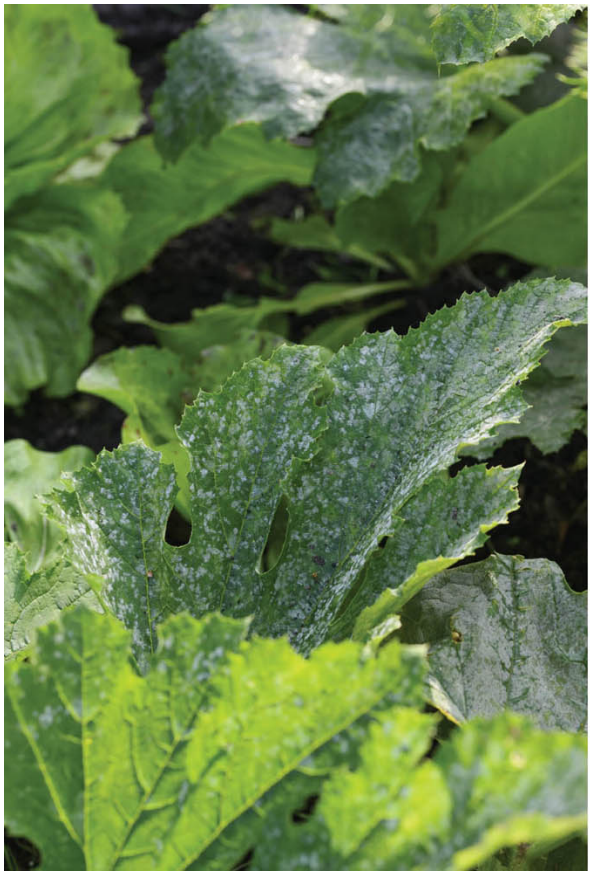
The most common plant diseases are, thankfully, usually not a major problem and can be managed with good gardening. For more serious diseases, see here for helpful guides.

LEEK RUST

This common fungal disease affects garlic, leeks, onions, and chives, covering leaves with orange pustules. Usually plants will continue to grow with little damage, but severe infestations can reduce the size of the crop. To reduce infection, make sure plants are spaced correctly, which reduces humidity. I have found that plants grown in a hoop house do not get rust.

POWDERY MILDEW

This is a common fungal disease affecting cucurbits. The white powdery coating on leaves looks awful (pictured opposite, left), but in most cases does no harm to the plant. Cut off badly infected leaves.



Reduce the risk by ensuring plenty of ventilation between plants. A spray made from four parts milk to six parts water can help manage mildew and reduce infestation.

LATE BLIGHT

Late blight affects potatoes and tomatoes, causing rotting leaves, brown lesions on the stems, and rotting fruit and tubers.

In potatoes, as soon as symptoms of blight have been identified, cut the foliage at ground level to prevent the spores from reaching the tubers. Leave for 2 weeks and then harvest. Check stored potatoes often for any sign of rotting tubers.

For tomatoes, cut off infected leaves, and when grown under cover this will usually be enough to allow the crop to continue ripening. Reduce the risk of blight under cover by always watering the soil, not the leaves. Once the tomatoes have become established, remove lower leaves to prevent splashing.

For potatoes, first and second early varieties generally have been harvested before blight arrives. Choose blight-resistant varieties of maincrop potatoes and tomatoes for outdoor growing.

Late blight does not survive on composted materials, so it is safe to compost infected plant matter. This is not the case for early blight, a disease that is widely found in the US.

Methods to avoid

— Diatomaceous earth is an indiscriminate killer, harming many insects and soil life.
— *Bacillus thuringiensis* (Bt) kills caterpillars feeding on leaves sprayed with it by infecting their digestive system so that they starve to death. I do not recommend this.
— Neem oil is an indiscriminate killer of insects and soil life.
— Sticky traps not only attract the intended insects but also end up trapping and killing bees and other beneficial insects.

Harvesting

Harvesting and enjoying the produce is one of the highlights of edible gardening. Each plant has its own needs and requirements for harvesting, but here are some general rules and tips to ensure that you're picking at the peak of perfection.

Top tips

A sharp pocket knife is ideal for most harvesting. Alternatively, use a pair of pocket snips—in particular, those with long pointed blades, which are easier for cutting delicate plants and getting into tight spots. Many edibles can be harvested just by picking with your fingers.

During summer, harvest either in the cool of the morning or in the early evening. In winter, harvest when any ground frost has melted away and it has warmed up a bit. Place the produce carefully in a basket. Dropping it in can cause damage and make it more likely to rot quickly. Handle all plants carefully to avoid damage.

Harvest very productive plants like beans, peas, and zucchini often to maintain productivity over a longer period. If the fruit is left to grow to maturity, the plants will stop producing.

Learn the harvest dates, colors, and sizes for each crop variety. For example, some varieties of tomato are ripe when they are a dark, almost black color, whereas others are ready when they are pale yellow. Zucchini and summer squash are tastiest picked small and often, whereas winter squash are not ripe until they are fully mature and have a hard, cork-like stem. You can tell whether melons are ripe by smelling their skin. If you inhale a glorious melon fragrance, they are ready to pick.

Bigger does not always mean better. A key mistake that gardeners often make is harvesting too late, by which time the crop has become woody or otherwise unpleasant to eat. Snow peas taste sweeter picked just as they form rather than when they are starting to produce seed.

For crops that are harvested whole, such as cabbages or cauliflowers, cut to ground level and leave the roots in to decompose naturally. Exceptions

are radicchio and chicory, which will regrow vigorously from their roots, so remove by twisting the plant out if you want to prevent this.

Most no-dig potatoes can be harvested by pulling the plant out of the ground and harvesting any potatoes clinging to the roots. Then, digging around in the soil with your fingers and a trowel to remove the rest of the crop (a technique called *furtling* in the UK).

In winter, try to harvest a week's worth of vegetables at a time, just in case the weather becomes very cold and the ground freezes, or you get home late and it is too dark to pick your crops. Learn which plants can be overwintered safely outside—such as parsnips, many leeks, and brassicas—and which need to be brought in during the fall to be stored, like carrots and beets.

Some crops need curing before they are stored or eaten. Onions and garlic need to be dried in a warm, airy place until their stems feel like paper. Oca, a root vegetable from South America, needs 2 weeks on a sunny windowsill before it is good to eat.

Make the most of your plants: many produce extra tasty harvests. Brussels sprouts and kalettes have delicious leafy tops that can be eaten like

kale. Calabrese broccoli, once the main head has been cut, will continue to produce smaller broccoli shoots, and the leaves are edible too.

Some crops, once they have gone to seed, produce further edible treats. Radishes have delicate edible flowers followed by delicious spicy seed heads. Most bolting crops produce flowers that are beneficial to wildlife. And if some plants have got too bitter or woody to enjoy, look on the bright side: they are good for the compost heap and will feed next year’s harvests.

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Part Two

Seasonal Produce

Choosing what to grow

Few of us will have the time and the space to grow everything that we need or want, so it makes sense to plan what crops to grow. The first question to ask is: what do we like to eat? It is surprising how many people I meet who grow crops in their vegetable gardens—it is often runner beans—because "everyone does," even when they don't actually like eating them. Put aside what you think you ought to grow, and think about what you'll enjoy using and what will give the greatest pleasure freshly harvested.

This may include crops that are best eaten freshly picked, such as peas or sweetcorn, or those that are expensive to buy, such as heritage tomatoes or asparagus, or unusual varieties that are difficult to find in shops, such as tomatillos or mangelwurzels. Everyone's list will be different, and there is no one "right way" to plan your garden.

Planning your produce

When choosing what to grow for maximum efficiency, questions to consider include:

— How many people am I feeding? (Remember to include any plant-eating pets: I grow extra greens to feed my ducks.)

— Do I want just enough for eating or gluts for preserving too?

— What will be easier (perhaps cheaper) to buy locally?

— Is there something different I fancy trying this year?

— How much time and space do I have?

— What limitations do the location and conditions place on what I can grow (sun, shade, soil type, paved areas, waterlogged, dry)?

Crops with multiple uses

Remember to include crops with multiple uses. These include plants that, in addition to growing for the table, can also be used to make home or body care products, have medicinal properties, or can be harvested to make dyes.

This is one of my key considerations when designing a new garden, planning new additions to the plot, or choosing what to grow this year. It saves money, because you're making the most of each plant. It saves time, with less sowing and planting overall. And it fits in with a thrifty homesteading mindset: the pleasure of making the most of our resources.

An example will show you what I mean. Parsley is a delicious herb that adds flavor, color, and nutrients to a wide range of raw and cooked dishes. It is also used in herbal medicine, and makes an excellent cleaning vinegar. It makes a herbal tea and a rejuvenating homemade body care product. Parsley flowers are a natural pest control, attracting beneficial predators, while the seeds are edible, herbal, can make an oil and, of course, can also be used to grow more parsley.

Other examples of multi-use plants include carrots, which have delicious edible tops that make great pesto when fresh. Hard-neck garlic gives a spring crop of scapes, the flowering shoot, wonderful at a time of year when there is less fresh produce, followed by the garlic bulb. Brassicas, if cut correctly, can continue to produce edible shoots, leaves, and flowers over many months, or can be "perennialized" to crop for several years. Perennializing plants that are usually grown as annuals is an easy and free way to increase the harvest. This is usually done by harvesting or cutting so that the plants can re-grow and crop again.

All edibles in flower feed beneficial insects, and many have seeds that also benefit wildlife.

How much to grow

Choosing how much to grow to feed the number of people in your household is personal, and it is difficult to advise that “you need this much.” There are charts available which suggest “so many cabbages to feed a family of four,” but everyone’s diet varies, and what would be the perfect number of cabbages for one family would not suit another who consume a lot of fermented vegetables. Once you have worked out how much you think you’ll need, add a little more (space permitting) to allow for any losses.

There’s always something that doesn’t quite go according to plan in the garden, and so although having one zucchini plant should provide more than enough fruit over the growing season for two people, it can be worthwhile growing two (choose different varieties) to ensure regular harvests.

Extra produce can be given away to local food banks or traded with fellow growers for some of their surplus.

Varieties

One of the joys of growing your own is being able to choose varieties of produce that are not available in stores. You can choose those that are grown for flavor and versatility rather than the uniformity demanded by supermarkets. Look also for varieties that are suited to your location and growing conditions. If, for example, you're choosing five tomato varieties to grow, you may want a delicious cherry with a sweet flavor such as Chocolate Cherry, a beefsteak for stuffing and slicing such as Brandywine, one that's perfect for making sauces such as Amish Paste, a storage tomato (for hanging in the kitchen for winter use) such as De Colgar and one delicious striped heritage tomato in glorious colors for the sheer joy of it, such as Berkeley Tie Dye. If your tomatoes will be grown outside, look for varieties that are more blight resistant. In cooler locations, look for those that are traditionally grown in similar conditions.

VEGETABLES

A productive vegetable garden, filled with healthy plants, is a thing of beauty. I am always fascinated by how people choose to grow this basic necessity of healthy meals: orderly straight lines? A jumble of vegetables and flowers? Neat raised beds, curving paths, or blocks of plants resembling a tapestry?

The reasons why people are drawn to grow vegetables are as individual as the gardener. For some it will be to have as much produce as possible; for others to grow varieties that are not available in shops. Some gardeners choose varieties that are more expensive to buy; others focus on vegetables that taste better fresh or do not transport very well.

Whatever your reasons for growing your own vegetables, it is a healthy occupation: a combination of outdoor exercise year-round and tasty, pesticide-free, vegetable-filled meals. There’s nothing quite like the pleasure I feel when I make dinner and everything on the plate came from my garden.

Growing vegetables

How to grow each variety of vegetable varies from plant to plant, but all have the same general requirements and principles. The most important is the health of the soil, or vitality of the compost for plants grown in pots, without which the plants will not reach their peak of potential.

Fortunately, when planning the vegetable plot it is good to know that almost all vegetables will be fine in healthy soil without requiring further amendments. There will be exceptions, of course. If the soil is very stony, it may be difficult growing root vegetables such as carrots or parsnips. In this situation constructing a raised bed deep enough to allow the roots to grow is a good solution.

Choosing the location

All vegetable plants need light, water, and the right location. A sun-loving tomato will not thrive if planted in a shady spot, for example.

Consider each vegetable's growth when planning where to put everything: its height and spread. Placing taller plants such as climbing beans at the back of the beds will ensure that smaller plants do not end up in deep shade. Spreading plants like winter squash will smother smaller vegetables, so keep them apart.

When planning the garden, take harvesting into account. Some plants such as beans grown as drying beans, parsnips, or winter squash have long growing times before harvesting. Some such as radishes mature within a few weeks of sowing, and others such as peas and French beans fruit over several weeks but require regular picking to continue to be productive. Bear this in mind when planning where to grow them, so that the vegetables that need regular picking or maintenance are easily accessible. Planting distances and spacing are important too, so that the plants can grow to their full size and there is enough airflow to reduce problems such as mildew. Sweetcorn, which is wind-pollinated, needs to be grown in a grid to ensure a good crop. Climbing plants will need supports, such as frames. Most plants need protection from extremes of weather. For some like eggplant

this will mean growing under cover, whereas others like potatoes will need overnight protection (fleece or cardboard) in late spring if the temperature falls toward freezing. Growing within a thriving polyculture and working with nature to increase biodiversity help to reduce pest and disease problems, but it is still worthwhile knowing what different plants are susceptible to, so that you can be vigilant and spot any problems before they become widespread.

Choosing your vegetables

In my garden, I grow both annuals and perennials. To produce the widest range of edibles possible—the ingredients to create whole meals entirely from your plot—grow annual vegetables. Potatoes, tomatoes, beans, peas, spinach, and beets: you can cover almost all food groups with annual vegetables. I include vegetables that are perennial in their native countries (such as runner beans) but are treated as annuals in the UK due to our shorter growing season.

Perennial vegetables are an excellent addition to a productive plot, because they produce yields over a long time (usually several years), require less maintenance than annuals and are, in the case of brassicas in particular, more resistant to pests. Although they will be attacked, they are more likely to bounce back and regrow.

Different vegetables belong to different plant families. Knowing which other varieties they are related to can help with managing pests and diseases, and also with crop rotation (choosing to grow different plant varieties in sequence, in different parts of the vegetable plot each year) if you wish to do that.

The main vegetable families

— **Alliaceae**: Alliums, the onion family, includes leeks, onions, and shallots.

— **Apiaceae or Umbelliferae**: Includes carrots, celeriac, celery, fennel, parsley, and parsnips.

— **Asteraceae**: Includes artichokes, chicory, and lettuce.

— **Brassicaceae or Cruciferae**: Includes cabbages, cauliflowers, kale, mustards, radishes, rutabagas, and turnips.

— **Chenopodiaceae**: Includes beets, chard, and spinach.

— **Cucurbitaceae**: Includes cucumbers, pumpkins, summer and winter squash, and zucchini.

— **Fabaceae or Leguminosae**: The bean family, includes all kinds of beans and peas.

— **Poaceae or Gramineae**: Sweetcorn and lemon grass.

— **Solanaceae**: The potato family, includes chilies, eggplant, potatoes, tomatoes, tomatillos, and sweet peppers.

Onion and spring onion

Allium cepa (bulbing onion); *Allium fistulosum* (spring onion)

Position: sun
Spacing: 4 in.
Hardiness: hardy

Growing bulbing onions takes up a lot of space, and while even organic ones are reasonably cheap to buy, it is worthwhile growing heritage and more unusual varieties that cannot be bought easily, such as ‘Piatta di Bergamo’ or ‘Rossa Lunga de Firenze’.

You can direct-sow bulb onions, or multi-sow in trays, five or six seeds per cell. Sowing times vary according to the variety. Traditionally, onions were sown under cover (in seed trays and then transplanted into cells) on Boxing Day in the UK (December 26th). Sow outside from late winter, in rows 8 inches apart, once the soil is starting to warm up. Thin the seedlings to 4 inches apart.

Water if there is a period of prolonged dry weather, but not once the bulbs have swollen because this can affect storage. Harvest from midsummer onward, when the foliage is starting to yellow. Some varieties of onion such as ‘Augusta’ are sown in late summer for cropping late spring the following year.

Onions are a fantastic staple to have in the kitchen and easy to grow, but they do take up rather a lot of space. This is where salad and spring onions come into their own. They can be sown and harvested for most of the year and store well for a week or two in the fridge.

One of the joys of these onions is that, once the root is cut off, all of the white and green part is edible and can be eaten raw or cooked. You can use the green part in recipes instead of chives.

Salad onions have a bulb at the bottom of a long stem, which is usually harvested fairly small. If you leave them in the ground, they will often grow a fairly fat bulb, which can be used just like a regular onion and are a perfect size for pickling.

Spring onions, also known as bunching onions or scallions, are long and slender with a small white (or purple) bulb and green leaves.

These onions are fantastic because they are tasty and fast-growing and can be popped into any spare space. They will also grow through the winter inside and outside. If cut at ground level, for much of the year the onions will resprout and grow again.

The onions can be sown in rows like carrots or parsnips, but I usually start them in trays, five to six seeds per cell, and plant in the ground together in little clumps. This means that I have some on hand to plant in between other crops, or as a catch crop when I have harvested something else. I also grow them on their own this way.

Plant when the leaves are 3 inches tall. I have found that they will sit obligingly in their trays for several weeks without any ill effects. They can be popped in almost anywhere, requiring very little space to grow.

Sow in early fall and plant in mid-fall under cover for overwintering in a greenhouse (or cloche, where they will mature earlier) or outside without any protection (unless you live somewhere very cold, in which case they will need protection). They will flower in mid-spring. The flowering shoots are still edible—use as scapes—but unlike garlic the onion won’t continue to bulb up.

Garlic

Allium sativum

Position: sun
Spacing: 6 in.
Hardiness: hardy perennial grown as an annual

Garlic is one of the few crops that is planted in the fall and will grow over winter. There are spring-planted varieties, which can be useful for areas with very harsh winters, but I choose the overwintering kind.

There are two types of garlic: hardneck and softneck. Both grow in much the same way, but the hardneck varieties offer an extra bonus—delicious garlic-flavored scapes (young flower stalks) in the spring. Elephant garlic is really a relative of leeks rather than a true garlic, but I am including it here because it is grown in the same way. Elephant garlic also produces scapes.

It is said that softneck garlic is better for storing than hardneck, but I have found that both store well. If you want to plait your garlic you will need softneck, because the hardneck varieties have a hard stem and are not pliable.

To plant garlic, split the bulb and choose the largest cloves; save the smaller ones to use in the kitchen. Plant 6 inches apart, 4 inches deep, in rows 6–12 inches apart. I like to plant them 12 inches apart so that I can use the space in between to interplant carrots, radishes, and salads in the spring, and green manures in the winter.

For elephant garlic, divide the bulb and plant each clove 4–6 inches deep (depending on the size of the clove—some are enormous) and 8 inches apart. Sometimes it produces mono bulbs, when the bulb doesn't split into cloves. Save these for the following year and plant at least 12 inches apart, when they will split and grow into especially huge elephant garlic bulbs.

Harvest the scapes in the spring by snapping off at the base. They taste deliciously of garlic, make pesto and pickles, and can be used in anything where you would add garlic. Later on, it is worth harvesting some of the garlic "green" or "wet." This means picking some immature bulbs, which taste of spring onions with a mild garlic flavor.

By the end of early summer the leaves should be turning yellow, a sign that the garlic is ready to harvest. Once harvested, dry thoroughly before

storing. Elephant garlic is usually available to harvest later on in midsummer and late summer.

All garlic can be perennialized: just leave some in the ground to flower. It will gradually produce more bulbs and start to spread.

If you plant enough for the kitchen and for the next crop, you will never need to buy garlic again. I estimate that one bulb equals five cloves for future planting, so if I want to grow a hundred bulbs for the kitchen (we like garlic), I will need to plant an extra twenty for the following year's garlic for planting.

Celery

Apium graveolens

Position: sun, moist
Spacing: 10 in.
Hardiness: tolerates low temperatures but not frost

Celery is one of the “dirty dozen”—the most sprayed vegetables in supermarkets—so it makes good sense to grow your own. The easiest are the self-blanching varieties which require no earthing up. Similarly, pink (‘Blush’) and red-stemmed celery are good choices as you cannot easily find them in the store and they do not need any special treatment. Red-stemmed celery usually has narrower stems than the others, but I have found it to be the most reliable overwintering one.

Leaf celery is a hardy type resembling parsley. It has the celery flavor but not the thick stem, making it ideal for flavoring meals.

Celery is bred from a wild bog plant and needs plenty of moisture. The seeds need warmth to germinate. Sow in mid-spring into a seed tray without covering—the seeds need light to germinate—and then transplant individually into cells or small pots. Wait until all frost has passed before planting out 6 inches apart.

Either harvest the celery as a whole head, cutting across the base, or pick individual stems, leaving the rest of the plant to grow.

Celery can regrow from its roots. It won’t produce another tightly growing head, but will provide lots of shoots for cooking.

Beet

Beta vulgaris

Position: sun
Spacing: 8–10 in.
Hardiness: hardy

Beets can be direct-sown but the baby leaves are susceptible to slug and woodlice damage, so I always multi-sow in trays. Sow four seeds per cell, which should produce at least six plants (if there are more, then thin out before planting). Beets are multigerm, which means that each seed can potentially produce two or three plants.

When the seedlings are 1½–2 inches tall, plant 8–10 inches apart using a dibber. Keep them in their little clumps to grow together.

Protect young plants from birds with enviromesh if sparrows are a problem—they love baby beet leaves. Once the plants have established, the mesh can be removed.

In late winter and early spring sow only ‘Boltardy’ and other slow-bolting varieties. From mid-spring you can sow varieties such as carrot-shaped ‘Crapaudine’, yellow beet, and pink and white striped ‘Chioggia’.

In my garden, one late winter sowing of ‘Boltardy’ followed by a mid-spring sowing of others and a further late summer sowing produce enough beet for my family of four for the whole year. In early fall, I sow beets for overwintering in the hoop house. This is mainly for the delicious leaves. It is possible to get some baby beets in late winter before their flowering time in mid-spring. To harvest, gently twist the largest beet from each clump as required, leaving the others to grow.

Beets store well over winter in boxes or sacks in a cool, dark, frost-free place. Twist the leaves off before storing and eat or compost them; alternatively, wash, chop, and freeze to use as spinach in winter.

They can also overwinter outside, protected with a cloche, a thick layer of straw or a couple of layers of fleece. This even works during snow, but it is best to harvest and store if there are lots of rodents where you are as they love sweet beets.

As well as the tasty roots, beet leaves are delicious raw when small and cooked when larger. The shoots are edible too, but once a plant has started

to go to flower, the root becomes woody and unpleasant to eat. Spare beet seeds make lovely micro leaves.

Chard

Beta vulgaris subsp. *cicla*

Position: sun or partial shade
Spacing: 12 in.
Hardiness: semi-hardy

Chard is such a wonderful plant: it will grow through most weather conditions and looks beautiful. Choose from dazzling colors including electric pink, deep orange, or pink and white stripes. Delicious raw and cooked, it is versatile and happy growing close to other plants. Pick baby leaves for salads and the whole large leaf and stem for cooking.

Sow chard individually into cells for single plants, or two seeds per cell to grow for salads only. Plant out 12 inches apart for individual plants, 4 inches for salad leaves.

To keep chard looking perky after harvest, place a bunch in a vase of water. This looks great and keeps the leaves fresh.

Chard is resilient to most things and should keep producing until it goes to flower in the spring. Try to leave one or two to grow to full height, just to admire how statuesque they are, with vivid colored twisting stems and small leaves, which are still edible.

Mangelwurzel

Beta vulgaris subsp. *vulgaris*

Position: sun
Spacing: 18 in.
Hardiness: hardy

A curious vegetable that I enthusiastically recommend: the mangelwurzel. Almost worth growing for its name alone, this versatile root vegetable is grown by farmers as a winter fodder crop, yet it is a fantastic addition to the vegetable garden. Easy to grow and with few pests once it is established, both the root and leaves of this large vegetable are edible. Use the leaves as you would spinach, and the mature roots like a beet or turnip.

During summer, the large leaves help to shelter and protect the soil, and the sheer size can help to shelter neighboring plants from high winds and strong sun. To harvest, cut at ground level in late fall, leaving the extensive root system in the soil to feed the microbes. Chop and drop old and damaged leaves on the soil, where they will slowly decompose, protecting it from winter weather. You can do this with other, similar root vegetables too.

There are several varieties available, including a deep orange one (‘Yellow Eckendorf’) and a pink-hued root (‘Mammoth Red’).

You can direct-sow, but I always start them indoors in mid-spring, one seed per cell, and plant as transplants, 18 inches apart, from late spring to midsummer. Keep well watered during dry weather.

They take 5 months or so to mature, by which time they should have grown huge. Mangelwurzels can stay *in situ* until late fall or early winter.

When harvesting, cook the leaves like spinach. The roots will keep in a cool, dry place for months. They are good roasted and mashed, used as you would rutabaga. I mainly grow them to make delicious mangelwurzel wine.

Kale

Brassica oleracea (Acephala Group)

Position: sun
Spacing: 12–24 in.
Hardiness: hardy (can be perennialized)

Out of all brassicas, if I had to choose only one to grow it would be kale. This incredibly versatile plant will provide multiple harvests of leaves and, growing like a little tree, easily accommodates other edibles interplanted alongside. There's a remarkable range to choose from, some with beautifully colored leaves ('Dazzling Blue', 'Red Curly') as well as the more familiar deep green ('Green Curled', 'Nero di Toscana').

Over winter I direct sow a row or two of different varieties under cover in a hoop house or cloche to pick as salad leaves when small and cooking leaves when larger. These will bolt in the spring—it is their flowering time—providing early forage for insects and attracting beneficial predators into the garden. The flowers taste good too.

As the kale matures and starts to go to seed, pick the shoots to use as you would sprouting broccoli. Repeated picking of the shoots can enable the plants to perennialize: they will keep growing, producing shoots and leaves, for 2 or 3 years.

Sow kale into a seed tray and then transplant each of the healthiest seedlings into an individual cell. When these transplants are large enough, plant in the ground 12–24 inches apart, depending on the variety. depending on the variety. Cover with butterfly netting if caterpillars or pigeons are an issue. Once they are established, there is little to do except water and feed if necessary (if they are looking pale). Remove any old shabby leaves to reduce habitats for slugs.

If your kale, or any other brassica, gets shredded by caterpillars, it does not mean the end of the plant. It is remarkably resilient and, once the caterpillars have been eaten by predators or gone off to complete their life cycles, will start to regrow. The harvests will be later, but you'll still get a crop.

When clearing kale or any other large brassica, cut at ground level and chop up the woody stem with a sharp spade before composting to speed up

the process.

Sprouting brassicas

Brassica oleracea varieties

Position: sun or partial shade
Spacing: 12–18 in.
Hardiness: hardy (some can be perennialized)

There is a wide range of sprouting brassicas to explore, meaning that you can have some cropping almost year-round. Examples include asparagus kale, ‘Broccolini’ (‘Tenderstem’), Cima di Rapa ‘San Marzano’, ‘Huauzontle’, ‘Nine Star Perennial’, purple-sprouting broccoli, ‘Spigariello’, and white-sprouting broccoli.

As well as the sprouting brassicas in the list above, many—including cabbage, Brussels sprouts, and kale—produce a tasty, edible flowering shoot that can be used in the same way.

‘Nine Star’ is a perennial broccoli with white shoots that vary in size from small to almost the size of cauliflower. The plant can last over 3 years.

In addition to the delicious buttons, Brussels sprouts produce a gorgeous large leafy top as a bonus. Cut off when the plant is mature and use like leaf cabbage or kale. In the spring when the buttons start to flower, pick off and use as sprouting broccoli.

Kalettes, also called Flower Sprouts, are a hybrid of kale and Brussels sprouts. A beautiful green-purple color, the kalettes grow out of the stem, resembling sprouts as they start to bolt, and are sweet and tasty. Sow, grow, and use the leafy kalette tops like kale.

Chili

Capsicum varieties

Position: sun
Spacing: 9 in. pot or plant 16 in. apart
Hardiness: tender but can be perennial if brought into a warm place in winter

Ranging from mild to almost inedibly hot, chili flavors include smoky, citrus, and fruity. Chilies need warmth to propagate, and due to their slow growth in cooler climates they need to be started in mid-winter. Sow in gentle heat, with extra light once germinated. Transplant into small pots, then eventually into large pots, at least 12 inches wide for growing to full size.

Chilies will grow in the ground, but I always keep mine in pots so that I can easily overwinter them. For the biggest crops, grow under cover. Chilies are very hungry plants and will need feeding weekly once the first flowers appear. Start picking from late summer onward. To store, preserve in sauces and jellies, or dry either in a dehydrator or by stringing up in a warm, airy room.

As cooler weather approaches, prepare chilies to overwinter inside. They are perennial plants, but die during cold, damp winters and need to come into a warm, frost-free space. You can overwinter chilies in full leaf and let them fruit and flower, but they are more susceptible to aphids and other pests, so I usually only keep two or three producing. Perennializing chilies in this way means you don’t have to sow again in the spring, and gives an earlier, more abundant harvest.

The rest have all of their leaves removed and are cut back with a severe pruning to about 6 inches of the main stem. This makes the plants dormant, less likely to get aphids and more likely to survive. Bring inside and put on a windowsill. Keep the compost slightly damp until spring, when they will resprout.

Some chilies won’t survive the winter months, but I find that most do. They can last for 5 or 6 years.

Growing sweet peppers is also much the same as growing chilies. They are sown at the same time and need the same growing conditions, but

require larger containers or bigger spacing if grown in the ground. They benefit from staking.

Radicchio and chicory

Cichorium intybus

Position: sun or partial shade
Spacing: 12 in.
Hardiness: most are hardy

With beautiful colorful crunchy heads, radicchio and chicory are easy to grow from seed and produce through fall and early winter. Harvested and stored, they can keep for months. The slightly bitter flavor is a wonderful addition to salads and cooked meals. I adore them roasted with olive oil, salt, and pepper.

Growing your own opens up a wide range of colors and varieties that are not usually available in the stores. Some of my favorites include ‘Palla Rossa’ (red and white), ‘Pan di Zucchero’ (green, amazing roasted), ‘Rose of Venice’ (rosé pink), ‘Rossa di Treviso Precoce’ (deep red with small white leaves), and ‘Variegata di Chioggia’ (pink and white).

Sow seeds in early summer and midsummer in a seed tray and then transplant into cells. Grow on until they are about 3 inches tall, then plant in the ground 12 inches apart. Alternatively, direct-sow, bearing in mind that slugs love the young plants.

If the weather is dry, keep them well mulched and watered. They take 4 months or so to mature fully, depending on the variety.

Chicory and radicchio will stand in the garden until late fall or early winter. Harvest as whole heads, retaining the outer leaves, and store in crates in a cool, dark place. They may look unpleasant, but once you have peeled back the unsightly outer leaves, a fresh radicchio will be revealed.

Radicchio and chicory will sprout again from the roots, so trowel them out and compost if you don’t want more to grow there. To force and grow delicious shoots, plant some of the roots close together in pots of compost and put somewhere dark. They’ll sprout and produce pale and tasty shoots, delicious raw, cooked, and pickled.

Summer squash and zucchini

Cucurbita varieties

Position: sun
Spacing: 39 in.
Hardiness: tender

These summer-fruiting crops rightly have a reputation for being very prolific. Most families just need two or three plants, but the different varieties are so tempting, each with unique properties and flavors, that I always grow at least eight different kinds. With all summer squash there is the added bonus of edible flowers, delicious dipped in batter and fried.

My favorite summer squash varieties are ‘Bennings Green Tint’ patty pan (delicious with a meaty texture), ‘Crookneck’ (yellow, flavorful, firm flesh), ‘Rugosa Friulana’ (yellow, warty Italian heirloom), and ‘Tromboncino’. (Use small like a zucchini, or let it grow and use like a squash—it is enormous!)

Pick patty pans when they are 2–4 inches. They become hard if allowed to grow bigger, but can be used then like a winter squash.

Lovely zucchini varieties to try include ‘Burpees Golden Zucchini’ (delicious yellow fruit), ‘Trieste White Cousa’ (really tasty, used widely in Middle Eastern cuisine), and ‘Verde di Milano’ (dark green skin, compact plant good for smaller gardens).

Sow and pot as for winter squash below, and plant 24 inches apart, when all risk of frost has passed. When the small fruits start to develop, start picking to increase the yield.

Later in the season, larger fruit can be used for making jams and wines, especially from the giant-size marrows that are often discovered under the leaves. A traditional country “rum” can be made from marrows, and oversize summer squash can be cooked just like winter squash.

The plants are killed by frosts. I leave them to rot down *in situ,* feeding the soil. It’s much easier than trying to remove soggy, rotten plants.

Winter squash

Cucurbita varieties

Position: sun
Spacing: 39 in.
Hardiness: tender

Squash come in such a diverse range of shapes, sizes, and colors that it is almost worth growing them just to admire their beautiful shapes. I grow a lot of different kinds of winter squash, ranging in size from small fruits that feed one or two people to huge ones that could almost feed a village. Some of my favorites are ‘Burgess Vine Buttercup’ (sweet flesh, compact size, feeds 2–3), ‘Gem Rolet’ (green fruit, very prolific, each feeds one person), ‘Hokkaido’ (sweet, nutty, excellent flavor, feeds 4–6), ‘North Georgia Candy Roaster’ (very large, delicious flesh, feeds a lot of people), ‘Thelma Saunders Sweet Potato Squash’ (pointed fruit, feeds 1–2), and ‘Queensland Blue’ (delicious flesh, huge!).

Sow in mid-spring to late spring (late spring in cooler areas) individually in 3½-inch pots. Protect them from rodents, which find the seeds absolutely delicious, until they germinate, and then protect the young plants from slugs and frost.

Squash grow really quickly and are not frost hardy, so don’t be tempted to start them too early. The good news is that because they grow so fast, you can sow them through late spring.

When the last frost date has passed, plant 30–39 inches apart. Cover with fleece for the first couple of weeks to help the plants establish, unless the weather is very warm.

Winter squash make excellent ground cover under sweetcorn (see here).

To store, harvest when the stems are hard and rough to touch. A good test is the “thumbnail test”: if you can’t push your thumbnail into the squash, they are ready to harvest. Cut from the vine, ideally in a T-shape, with a little of the vine attached either side of the stem.

Check the fruit for any damage. If it is split or has been nibbled, it will not keep, so use that up first, or roast and freeze for later use. I always roast squash before freezing, as it tastes so good added to winter soups and stews.

Place the squash somewhere light, dry, frost-free, and airy such as a windowsill to “cure” for a few weeks. Arrange the crop creatively around your home in dry, airy places. I mostly store mine on top of shelves in the living room and kitchen, where they look rather lovely.

Carrot and parsnip

Daucus carota subsp. *sativus* (carrot); *Pastinaca sativa* (parsnip)

Position: sun
Spacing: carrots 2–3 in.; parsnips about 6 in., depending on variety
Hardiness: hardy

Carrots and parsnips are closely related; they are sown and grown in similar ways and, although they taste different, can be used in much the same way in the kitchen. Both are delicious cooked and raw. This is also the same method for growing other root vegetables such as Hamburg parsley, chervil root, salsify, and scorzonera (black salsify).

First of all, to dispel some myths surrounding growing root vegetables. You do not need to dig in order for the vegetable to grow straight. Unless your soil is full of rubble, they will grow beautifully straight. There's no need to wiggle iron bars into the ground and backfill with compost or sand, and it is definitely best not to dig sand into your soil. That can help to turn clay into a concrete-like substance!

It is fine to sow carrots and parsnips into a compost mulch, including composted manure; it is not too rich for them and they do not fork. Forking occurs when the compost is dug in, not gently and naturally incorporated into the soil by the worms and other soil life.

I always direct-sow carrots and parsnips. Some people prefer to pre-chit (pre-sprout, or pre-germinate) parsnips, but my method of direct-sowing always works well. Sow from late spring onward, parsnips in rows 12 inches apart, and carrots 6 inches apart, about ½ inch deep. Make a sowing groove with a trowel or dibber, water the groove, sow the seeds and carefully backfill.

Sprinkle radish seeds between the rows of parsnips, which are much slower to germinate: the radishes will mark the rows and give a tasty quick crop of spicy roots.

Cover the seeds with enviromesh or fleece to prevent disturbance from birds or cats. If the weather is very dry or windy, water to keep the soil moist. Once the seeds germinate, remove the cover. Thin out if needed to about 4 inches apart for the parsnips and 1–2 inches for the carrots, depending on variety.

Keep sowing carrots outside all through the summer and with protection in the fall for baby carrots the following spring.

Once established, and after the radishes have been harvested, parsnips need little attention except for weeding. During the summer protect your hands and arms as the leaves can trigger phytophotodermatitis—a painful skin reaction caused by contact with some plants, and triggered by sun and moisture. They are best harvested after the first frosts, which makes them taste sweeter, and in all but the coldest locations will stand in the ground right through the winter months.

Carrot leaves are edible and make a lovely pesto.

Florence fennel

Foeniculum vulgare var. *azoricum*

Position: sun
Spacing: 12 in.
Hardiness: semi-tender (can be perennialized)

Florence fennel is crisp, crunchy, tastes of aniseed or licorice, and is very versatile. It is delicious raw and cooked, with edible leaves, stems, flowers, and seeds. There is a myth that you cannot grow Florence fennel with other crops. This is not the case.

Florence fennel can be direct sown but it is very susceptible to slugs. I sow seeds into a tray and transplant when large enough to handle into cells. It can be slow to germinate, so be patient.

Sow for winter and spring cropping in early fall, planting in mid-fall in a hoop house or outside under cover (cloche or cold frame). For successional cropping I also sow some in mid-fall for planting in late fall. These form smaller bulbs than the early fall-sown fennel.

Florence fennel is prone to bolting—going to flower quickly—so select slow-bolting varieties (‘Finale’, ‘Zefa Fino’) for spring sowings. Otherwise, sow all fennel varieties after the longest day.

When the fennel has formed healthy little plants, plant 12 × 12 inches apart with a dibber and water in well. Florence fennel obligingly grows happily with very little maintenance for most of the year.

It does not like getting frozen, so cover spring plantings with fleece for protection. During winter, I cover the hoop house fennel with fleece if there is a period of very cold weather. Young plants are less vulnerable to frost damage than more mature bulbs. If the bulbs do get frozen, the outer layer may become mushy, but I usually find that removing this reveals a tasty inner bulb.

If the weather is very dry, remember to water to prevent bolting. If your fennel does bolt, it is still delicious to eat. The flowers have an incredible flavor—a burst of sweet aniseed. The leaves can be used as herb fennel.

Harvest fennel as you need it, removing the fattest bulbs first and leaving the rest to grow. Toward the end of fall, I harvest or cover all remaining mature fennel, especially if the weather has become very cold.

For most of the year, you can get fennel for free! When harvesting, cut the fennel at the base of the bulb and wait for a few weeks. New babies will grow around the original root in a circle. Harvest these small as they will bolt otherwise. This doesn’t work so well in the fall for outside plants; I find that it doesn’t regrow until the spring and then quickly shoots up to flower.

Sweet potato

Ipomoea batatas

Position: sun, warm
Spacing: 12 in.
Hardiness: tender

Sweet potatoes are a member of the Convolvulaceae family, which includes morning glories, to which their flowers are similar. A vigorous climber, it can grow to 5 feet, either up a frame of sticks or left to sprawl across the ground. As a tropical plant, it thrives best in a warm environment such as a greenhouse. It will grow outside, but it is best to protect plants with a cloche in cooler climates. There are new cultivars that have been specifically grown for these locations (‘Erato Vineland Early Orange’, ‘Erato Violet’, ‘Erato White’).

Sweet potatoes are grown from slips: little shoots from a parent tuber. They need to be somewhere warm, such as a sunny windowsill, to propagate. In early spring, either suspend a tuber over a jar of water, with the root (pointier end) in the water, or lay tubers on their sides half buried in a tray of compost. After a month or so, roots will grow down and shoots will start appearing. When the shoots are 3–4 inches, carefully remove each slip, making sure each one has a root, and pot. Once they have become sturdy transplants, plant in late spring. Protect from cold.

When the vines are growing well, pick shoots and leaves to cook as you would spinach.

In the fall, the sweet potatoes are ready to harvest once the leaves start to die back. Dig out and shake the soil off. Then “cure” on a sunny windowsill for 2 weeks before storing.

Save one or two tubers for next year’s crop. Cuttings from the vines can be overwintered too, propagating as for slips; keep in a warm, light, frost-free place such as a windowsill over winter. Their lovely leaves make attractive house plants.

Lettuce, salad leaves, and Asian greens

Lactuca sativa (lettuce)

Position: sun or partial shade
Spacing: 6–12 in., depending on the variety
Hardiness: moderately hardy with protection over winter

Mixed salads are expensive to buy and quickly turn limp, so it makes sense to grow some year-round in your garden, if possible. Most leaves that are grown for salads are also delicious cooked. I pick some of my lettuce as leaf lettuce and grow others on to heart, which are delicious drizzled with oil and roasted on a barbeque. This means that you can make the most of your garden by growing dual-purpose vegetables in the same space, which is especially useful for overwintering, when undercover space is at a premium.

In addition to lettuce, Asian greens for cooking and salad include pak choi, Chinese cabbage, komatsuna, mizuna, mibuna, mustard, mispoona, tatsoi, choi sum, amaranth, Wa Wa Ga Choi stem mustard, chard, Rapa senza Testa, magenta spreen, orach, and sorrel. These are all good for growing over winter.

There are four key sowing times for year-round harvests:

— Late winter and early spring for late spring harvests, either under cover or outside with crop protection (fleece, polyethylene cloche) when the overwintered ones have finished.

— Mid-sprig and late spring for summer and fall crops.

— Midsummer for fall and some winter crops.

— Early fall and mid-fall for overwintering crops under cover and outside, protected with fleece or a cloche, harvesting throughout the winter and spring.

Sow lettuce and any plants to be grown singly into a seed tray, transplant individually into small cells and then plant in the ground when 2 inches tall; sow most other leaf crops into cells, two seeds per cell. This is ideal for popping the plants into the ground to intercrop and fill in gaps.

To keep the plants healthy and pest-free, remove old and damaged leaves, which helps to deter slugs.

If you are growing a plant for a one-off pick, such as a hearting lettuce, cut at ground level. For continual cropping, pick the outer leaves, leaving the inner hearts to grow. Most of the sowings should produce for 8 to 12 weeks, with overwintered plants cropping from early winter right through until mid-spring to late spring. Supplement your salads with herbs, edible flowers, and leaves from other edible leaf vegetables in the garden.

Runner, French and storage beans

Phaseolus coccineus (runner bean); *Phaseolus vulgaris* (French bean)

Position: sun
Spacing: 6–12 in., depending on variety
Hardiness: tender

French, runner, and storage beans (grown for drying) can be either tall climbers (pole beans) or dwarf varieties (bush beans).

Favorite drying beans include ‘Borlotti’, ‘Czar’, and ‘Greek Gigantes’. Climbing beans (‘Emergo’, ‘Golden Gate’, ‘Rhondda Black’) are a far more productive use of the space, but dwarf beans (‘Aguilon’, ‘Marvel of Piemonte’) are ideal for growing in pots and popping into gaps in the beds. A midsummer sowing of dwarf beans planted between tomatoes under cover will give a crop in the fall.

Although they can be sown directly, I start all of my beans in trays. This means they get a head start (I can sow them a few weeks earlier in the greenhouse, because they are not frost hardy) and are less likely to be devoured by slugs and snails, which love tender young bean plants.

Don’t be tempted to sow too early. Often there is a pressure to start beans in early spring, which is far too soon except for those with a very early last frost date. Use deep trays, homemade paper pots (see here), root trainers, or toilet rolls.

Sow in mid-spring, one bean per cell, in a warm, light, frost-free place. They should germinate in a few days and grow quickly.

For climbing beans, construct frames for them out of twigs, bamboo, or similar poles. It is better to get these frames up early, while the ground is still moist after winter, rather than waiting until a few weeks after planting.

Plant 10 inches apart, with 18 inches between one row and the opposite one, if growing up a ridge frame. Water in well. If the weather is looking chilly and windy, construct a temporary “tent” around the poles using polyethylene or fleece for protection.

Make the most of the space on either side of the bean poles by growing catch crops such as salads, beets, or spring onions. If the weather is very hot and dry, water the beans to increase productivity.

Pick French and runner beans regularly through the growing season to increase productivity.

Beans that are growing for drying and storing are easy. Once established, there is little to do except water as necessary. In the fall, as the pods dry and turn brown, spread the beans out across crates and leave somewhere airy and dry until they are hard and rattle when you run your fingers through them. Store in clean jars until needed.

Pea

Pisum sativum

Position: sun
Spacing: 4 in.
Hardiness: depends on the variety; some are winter-hardy and others are not

The taste of the first spring peas is remarkable. They are wonderful to snack on fresh from the plant and few actually make it into the kitchen.

Peas for podding are delicious, but I mainly focus on snow peas (‘Bijou’, ‘Golden Sweet’) and sugar snap peas (‘Sugar Lace’, ‘Sugar Magnolia’) for the most abundant harvests and wider range of uses. They are also more expensive to buy in shops, which makes growing them more of a bonus.

When shelling peas, you can retain the pods to make pea pod wine.

Drying peas (‘Boddingtons Soup Pea’, ‘Latvian Soup Pea’, ‘Raatviksaart’)—sown just like all peas and then left for the pods to dry on the plant—are excellent for storing and providing the base for a wide range of winter meals from soups to curries.

Leave some peas to mature on all of the varieties that you grow to provide seeds for next year’s harvests. As an extra bonus, use any spare seeds to grow pea shoots, a cut and come again salad crop, delicious either raw or steamed. The pea flowers are edible too.

Sow peas under cover in the fall for extra early spring crops and again in early spring. Taller podding varieties (‘Llanover’, ‘Telephone’) are a more productive use of the space, with the shorter ones (‘American Wonder’, ‘Oskar’) being best for overwintering—because they are less likely to be flattened by the weather—and for pots.

I always sow peas into trays, as the seeds are beloved by all rodents and many birds, and a direct-sowing usually results in them mysteriously vanishing. For all varieties, sow three seeds per cell. Plant when around 4 inches tall, around 4 inches apart, in rows either side of a frame made from twiggy sticks (for climbing peas). Shorter varieties will usually benefit from some short pea sticks too, which help to keep pigeons off. Cut at ground level when clearing the pea vines, leaving the roots to feed the soil.

Radish

Raphanus sativus

Position: sun or partial shade
Spacing: depends on variety—smaller ones such as ‘French Breakfast’ 1–2 in. apart; larger such as ‘Black Spanish Round’ 12–14 in. apart
Hardiness: tolerates light frost (28°F); can be grown year-round with protection

Radishes are very quick to grow and make excellent use of gaps in the garden. There are so many varieties to choose from, from mild to very spicy, including huge daikon and round winter radishes the size of a tennis ball.

Some of my favorite radishes to grow include ‘French Breakfast’ (crisp, crunchy and spicy, with red and white skin and white flesh), ‘Green Luobo’ (a winter radish with a mild flavor, green flesh and a white skin), and ‘Watermelon’ (pale green/white skin with a dazzling bright pink sweet flesh).

Direct-sow but not too thickly or they will grow thin and stringy. If they are too thickly sown, thin to 1 inch apart. Alternatively, sow four or five seeds into a tray and plant in the ground 4 inches apart, where they will grow in little clumps.

Leave some to go to flower for the delicious edible flowers and the fresh edible pods. Eat these young (cooked, raw or pickled) before they get too stringy.

Tomato

Solanum lycopersicum

Position: sun
Spacing: 18 in.
Hardiness: tender

Tomatoes are warmth and sun-loving plants that originated in South America, and grow particularly well under cover in a greenhouse, though they will produce successfully outdoors in a sunny spot.

They are easy to grow from seed, requiring 64–70°F to germinate. Once transplanted, keep somewhere warm, light, and frost-free to grow until planting time. Alternatively, start with plug plants.

When planting out, space 18 inches apart to allow airflow and space to pick. Interplant with salads, basil, and marigolds. Tomatoes planted in the ground should not need extra food unless the soil has not been mulched that year. Feed tomatoes in pots every 2 weeks, or any that have yellowing leaves, with homemade comfrey and nettle solutions.

There's a huge range of tomato varieties to choose from, including spectacularly colored heritage varieties ('Berkeley Tie Dye', 'Evil Olive'), dwarf tomatoes for pots ('House Tomato'), and some that have been specifically bred to be resistant to blight ('Crimson Crush', 'Primabella'). Depending on your space, it is worth choosing a selection including cherry tomatoes for salads ('Blue Fire', 'Chocolate Cherry'), beefsteak for slicing ('Brandywine', 'Feo de Rio Gordo'), plum tomatoes for preserving ('Amish Paste', 'San Marzano'), and long-keeping varieties for storage ('De Colgar', 'Longkeeper').

Storage tomatoes are heritage varieties that are sown later than the summer-producing ones. They are harvested unripe in mid-fall by cutting off the whole cluster, and then hung on hooks in a warm, light place such as the kitchen. They'll slowly ripen and be ready for eating from early winter onward.

Tomatoes grow in two ways:

— Bush (or determinate) tomatoes grow like bushes and are good for pots, hanging baskets and smaller spaces.

— Cordon (or indeterminate) tomatoes are tall, fast-growing plants that need supports to grow up and more maintenance. Once established, remove the lower leaves and pinch off the side shoots which grow at the joint of the leaf and the stem. In the early summer, to make more plants for free, you can pop the side shoots into a cup of water and pot them once the roots develop.

Although it may seem like more work, the benefits of cordon tomatoes are that they are highly productive and will keep producing well into mid-fall if the weather conditions are favorable. Side-shooting helps to increase airflow, reducing the risk of blight and other diseases.

Consistent watering of tomatoes grown under cover is important to help prevent blossom end rot, where the bottom of the fruit turns black.

Toward the end of the growing season, to encourage the trusses to ripen you can pinch out the growing tip, so that the plant focuses on ripening rather than making more fruit. Alternatively, enjoy a crop of green tomatoes for preserving.

When it is time to remove the plants, cut at ground level and compost the stems. The roots will slowly decay and feed the soil.

Tomato leaves are edible with an intense tomato flavor that you can use in sauces and pesto. However, extremely large amounts are not good for you, as they are mildly toxic.

It is very easy to save tomato seed (see here) but do so only from open-pollinated varieties and not F1 hybrids.

Broad bean

Vicia faba

Position: sun, sheltered
Spacing: 8 in.
Hardiness: hardy

Broad beans are a productive and easy plant to grow, and one of the few crops that can be sown in early and mid-winter (‘Aquadulce Claudia’). Growing over winter, they need little maintenance and help to protect the soil. The crop of beans—the shoots appear from mid-spring onward—is welcome during a time when there are fewer fresh harvests. Fall is the time to sow their green manure “cousin”—the field bean (‘Vespa’)—which, if not cut down as a compost crop, will produce pods, beans, and shoots to eat at the same time, in late spring or early summer.

Spring-planting varieties include the ornamental red-flowering ‘Crimson Flowered’ and ‘Red Epicure’, which produce a red-colored bean. Sow from late winter onward for crops through to the end of summer. There are dwarf varieties that are fine for pots, but I don’t really see the point of growing low-yielding beans in the vegetable beds.

Direct-sow all kinds 2 inches deep and 8 inches apart in rows 8 inches apart. If growing in a windy location, support with stakes to prevent them from blowing over. If rodents are prevalent, it is advisable to sow into trays first and then plant out when 4 inches tall to prevent the beans from being eaten.

Broad beans are a truly multipurpose crop. Over winter they act like a green manure, and the beans can be eaten at all stages. Eat small pods about the size of a little finger whole like French beans. Small beans about the size of peas are sweet and delicious raw, and at around ½ inch long they are juicy and tasty. Larger beans usually need double podding by removing the outer bean case, which becomes tough as the beans get bigger. Leave very large beans to dry for next year’s seed or to grind into flour.

The growing tips have a delicious fresh flavor. Pinch off to eat raw in salads, or cook as a leafy green.

When clearing the beans, cut down to ground level and leave the roots to feed the soil.

Sweetcorn

Zea mays

Position: sun
Spacing: 14 in.
Hardiness: tender

One advantage of growing your own sweetcorn is that you can cook and eat it within minutes of harvesting. Another is that it opens up the possibility of growing one of the many multicolored heritage varieties to eat as popcorn or keep as a drying corn.

I like the flavor of heritage varieties of sweetcorn, including ‘Double Standard Bicolor’ and ‘Special Swiss’, and prefer to grow these rather than the F1 hybrid super sweet kinds. For popcorn, multicolored ‘Glass Gem’ looks gorgeous. Drying corns are grown to grind for flour, including ‘Fiesta’ and ‘Painted Mountain’.

Sweetcorn needs warmth to germinate. From mid-spring sow seeds individually in trays in the greenhouse or on a windowsill. Plant when 3–4 inches tall, once danger of frost has passed. If they are looking too big for the trays and it is still too cold, pot into small pots and keep under cover.

Plant in grids 14-18 inches apart. Sweetcorn is wind-pollinated and needs to be grown in a block so that there is a successful chance of pollination with the neighbors.

Try to avoid planting different varieties too close together. They cross-pollinate freely and this affects the flavor of the corn cobs.

Grow squash next to the corn so that it can spread through the sweetcorn and help keep the soil moist and weeds down. There is a method called the Three Sisters from South America, in which corn and squash are grown with beans. This method is for storage crops: drying beans, corn for drying, and squash. In cooler climates corn grows more slowly than climbing beans and can quickly become swamped, and so the “two sisters” method is more productive.

From midsummer onward the tassels of the cobs will turn deep brown, a sign of ripeness. To check, pierce one of the kernels with your fingernail. If a liquid oozes out, it is ripe. Remove the corn cobs and enjoy as soon as possible before the sugars turn to starch.

The multicolored drying corns are harvested later on, in mid-fall. After harvesting, dry somewhere warm and airy and store away from rodents.

Cut the sweetcorn at ground level to clear. To compost the stems, chop or shred before adding to the heap.

Perennial onion and leek

Allium varieties

Position: sun and partial shade
Spacing: 'Walking Onion' 6 in. apart; Babington's perennial leek 4 in. apart, depending on variety
Hardiness: hardy

Perennial onions are alliums that multiply year after year and can be left in the garden. My favorite is the 'Walking Onion'. This produces a little crown of bulbils on a stem that gradually bends down to the ground, where they root themselves and grow. Slowly the onions "move" across the bed in this way, hence 'Walking Onion'. Eat as spring onions or pickle. Harvest from late spring to mid-fall. Welsh onions are, strangely enough, not native to Wales at all, originating in China. They grow about 24 inches tall and are used like chives or spring onions.

Leeks can be perennialized. Leave to flower and let the bulbils develop on the flower head. This will slowly bend down to the ground and root, producing a clump of leeks. Either leave these to grow as baby leeks, or transplant some to grow into larger ones.

Babington's leek is a wild perennial with a garlic flavor. It grows from bulbils and is harvested in late spring or summer, cut at soil level just above the bulb, which remains underground to regrow.

Perennial brassicas

Brassica oleracea varieties

Position: sun or partial shade
Spacing: 24 in.
Hardiness: hardy

Perennial brassicas grow in much the same way as their annual cousins (see here), but will keep producing for around 6 years. They are susceptible to the same pests and can be stripped by caterpillars, but will bounce back and continue growing.

Perennial kale is a truly remarkable brassica that can grow absolutely enormous. I had one plant that was 7 feet wide and over 39 inches tall. The two main varieties are ‘Daubenton’ and ‘Taunton Deane’. Both are propagated by planting shoots in pots of compost, where they will root and grow into new plants.

Tree kale is a perennial cabbage that looks more like kale than cabbage. It has a stalk with a loose head on top that just keeps producing leaves. I grow the Spanish heirloom Asturian tree cabbage from seed. Sow just as you would annual kale. It will live for 2 to 3 years if all the flowering shoots are removed.

‘Nine Star Perennial’ broccoli is a heritage brassica that resembles a cross between broccoli and cauliflower. Also grown from seed, it produces white shoots that sometimes are about the size of sprouting broccoli and other times can be the size of a cauliflower. The leaves are also edible. The plant usually lasts for around 3 years, although I have had some live for 6 years.

Oca

Oxalis tuberosa

Position: sun
Spacing: 12 in.
Hardiness: best treated as tender

Also known as New Zealand yam, oca is a perennial that needs to be stored somewhere frost-free for the winter. It tastes rather like a lemony new potato, with small, very colorful tubers.

In mid-spring plant tubers individually into pots in a light, frost-free place. Plant about 12 inches apart once the danger of frost has passed. Oca starts to really get growing after the fall equinox, so this is another late-harvesting crop.

In early winter, dig up the tubers. Shake the soil off and spread out on a sunny windowsill to “cure” for 2 weeks. Select the largest tubers to store in a cool, dry place for next year’s seed crop.

Store the rest of the oca as you would potatoes and enjoy cooked, raw, fermented, and pickled.

FRUIT

One of the main reasons why I grow fruit is for the flavor. There is nothing quite like taste of the first raspberry, strawberry, or ripe peach of the year. As a keen cook, homegrown fruit also offers the opportunity to explore different flavors, including heritage varieties and hybrid berries. Remarkably, one of the peach trees growing in my hoop house is a Welsh heritage variety grown on the estate of the Marquess of Anglesey, who died in 1905.

As well as enjoying the seasonality of fruit harvests, once established you save money on fruit that is often expensive to buy. Adding a range of fruits to a growing space significantly increases biodiversity. From the beautiful spring blossoms to the ripe harvest, they provide forage, food, and shelter for a host of insects, mammals, and birds.

With dwarfing rootstocks, there are fruit trees available for all kinds of gardens, including balconies. Fruit vines and bushes also grow well in pots. When planning your fruit garden, as well as considering growing conditions including light and warmth, check whether the fruit you wish to grow is self-pollinating or needs a member of the same plant family to cross-pollinate.

Growing fruit

You don’t need acres of land or complicated equipment to grow an incredible range of different flavorful fruits, which are delicious whether nibbled in the garden or made into a multitude of sweet and savory dishes, preserves and drinks. Most are long-lived and fairly easy to maintain, requiring simple annual pruning and general care. Some —such as strawberries—need to be replaced every few years, while others such as melons are annuals and must be sown each spring.

Choosing the location

Unlike vegetables, most of the fruits I grow are perennial, and require more careful thought about location than plants that only remain in place for a season or two.

It is really worthwhile thinking carefully about which fruits you would like to grow, and then reading about their particular requirements: some are happy popped in anywhere, whereas others only thrive with special conditions. Explore different fruit catalogs, especially those selling heritage and varieties suitable for your location, to discover which varieties suit your needs (see here).

Consider your climate, rainfall, frost dates, altitude, exposure to wind, and seasonal temperatures. Do you have sheltered sunny spots, a greenhouse, a warm sunny wall? Are there frost pockets, waterlogged places, shaded areas that get very little sun? Examine your growing space and use the information you gather to decide which fruits will suit you best. If you are new to a garden or plot, ask neighbors for their observations.

Consider what you will be growing nearby. You can grow many kinds of vegetables and flowers close to young trees, for example, but as they get larger and create shade, the choice will become more limited.

For community gardens, read your tenancy rules before planting trees. At my site, fruit plants and bushes are permitted; trees are not. If you really want fruit trees in this situation, many will grow happily in large pots. Fruit trees, bushes, and rhubarb are best planted during the winter months when they are dormant.

What size of fruit tree?

In my garden I have several established full-size trees, which were already established when I moved here, and have added several more to the plot. I also have a variety of fruit trees in pots which moved here with me, some on dwarfing root stocks and others kept to size by pruning. If you do not have enough space to let the tree grow as it wishes, you can keep it to a manageable size with regular pruning at the appropriate time for the species, whether in pots or in the ground. In my hoop house I grow three peach and two nectarine trees, all controlled with pruning.

Most fruiting trees are grafted onto the roots of different varieties, which influences the way the plant grows and can improve its health and resistance to disease. Dwarfing root stocks, or pruning to keep trees small, can enable gardeners to grow trees in spaces where it would not be possible to grow a full-size fruit tree. As a result, I can have far more varieties than if they were full-size, which is beneficial for biodiversity as well as for me; I can also grow other plants nearby and in pots on areas of concrete. For trees on patios and in pots, look for the dwarfing and ultra-dwarfing rootstocks.

You do not need to buy trees on dwarfing rootstock to grow in pots. In my previous garden in Somerset, I created a whole small forest garden in pots on an area of concrete, using fruit trees from discount stores and supermarkets, as well as seed swaps (where you can often obtain fruit bushes and trees too). I added potted fruit bushes grown from cuttings, and pots of herbs and edible flowers, to create a multi-layered “food forest”. Some wildlife pools made from deep saucers and a few bug habitats boosted biodiversity.

When growing fruit trees in pots you need to keep them well watered, especially in dry weather, and fed, because they cannot access the soil food web and get nutrients themselves. Liquid plant foods are ideal. Mulch with compost every year too. Prune annually to keep trees to a suitable size, whether or not they are on a dwarfing rootstock.

Harvesting

With a little planning, it is possible to have a succession of homegrown fruit from late winter right through the fall. In my garden, I start harvesting in late winter, when the first forced rhubarb is ready, followed by early strawberries grown in pots under cover (greenhouse, hoop house, windowsill) in mid-spring, raspberries starting in late spring, gooseberries and outdoor strawberries in early summer, blackcurrants in midsummer, blueberries in late summer, plums in early fall, apples in mid-fall, and sometimes the last few fall raspberries in late fall. During the winter I enjoy stored and preserved fruits until the first rhubarb is ready again the following year.

MAKE YOUR OWN FRUIT PICKER

It is simple to make a fruit picker to safely reach apples and other fruit high up in trees. Just attach a large tin can—baked bean size or larger—or a 64-ounce plastic beverage bottle (with the base cut off) to a long pole.

Choosing your fruit

I have chosen a selection of fruit, some annual but most perennial, that are productive and versatile, able to be used in a wide range of dishes and preserves as well as enjoyed fresh. There are plenty more unusual fruit crops that you might want to try, including fig-leaf gourd (*Cucurbita ficifolia*), pictured right. Grown like a melon, this produces a fruit used to make soups and curries in Asian cuisine, and a sweet preserve called *dulce de cabello de ángel* (angel hair) in Spain.

Soft fruits

Saskatoon serviceberry

Amelanchier alnifolia

Position: sun
Spacing: 12 ft
Hardiness: hardy

The saskatoon serviceberry resembles a blueberry but will grow happily in most soils. Be aware that it is a big plant, up to 10 feet tall, depending on the variety, so either choose to let it grow as a tree or keep well pruned to a size you can manage; alternatively, grow in a large pot. It works well in an edible hedge.

Saskatoons are high in fiber and filled with vitamins, with a sweet, slightly nutty flavor. They ripen in early summer after a flourish of beautiful scented blossom. In cooler places, they ripen later in midsummer. In the fall, the leaves turn shades of fiery orange and red.

Plant as described above, 12 feet apart if growing to full size. If you're keeping them smaller by pruning, then they can be planted closer together. Mulch annually and make sure you water during dry weather in the first year.

Saskatoons do not require much pruning if growing to full size, except the removal of any damaged or diseased parts.

The fruit turns from pink to a deep purple-blue when ripe. Take care while picking as it bruises easily. Store in the fridge for a few days or freeze. Use in recipes as you would blueberries and other soft fruit.

Strawberry

Fragaria × ananassa

Position: sun
Spacing: 20 in.
Hardiness: hardy

Strawberries are a much-loved fruit: such a beautiful heart shape, color, fragrance, and texture. They are the first homegrown edible plant I was aware of; my grandad grew a patch in the back garden of his council house in industrial Bradford. As a little girl I was amazed that it was possible to grow such deliciousness at home.

There are different species, from tiny alpine strawberries to enormous fruits such as ‘Gigantella’. Wild strawberries form a delicious ground cover and their tiny fruits seem to be less susceptible to pests than larger strawberries.

Strawberries are good sources of fiber, minerals, and vitamins, as well as flavonoids and phytonutrients. They are traditionally used to whiten teeth and, mashed up, make an excellent skin-refreshing face mask. Contrary to popular myth, it is better not to grow strawberries on a bed of straw if you live in a damper climate, because this creates a habitat for slugs and woodlice, which love to munch on them. I use compost.

Most strawberries crop from early (‘Christine’, ‘Gariguette’) to midsummer (‘Cambridge Favourite’, ‘Sonata’). I extend the season by growing some in pots in the greenhouse and hoop house. Hanging baskets in the hoop house work well, making use of the braces, especially as they are usually fruiting before the taller summer crops are growing. They look beautiful: ripe red berries hanging over the side inviting you to take a nibble.

There are earlier and later fruiting varieties (late varieties—‘Fenella’, ‘Florence’) and also ‘everbearing’ strawberries (‘Buddy’, ‘Finesse’) that you can pick multiple times from early summer to mid-fall. Choose carefully as some everbearing varieties are rather flavorless. ‘Mara des Bois’ is, I think, the most delicious of the group, with the intense flavor of alpine or woodland strawberries.

Strawberries grow well in most soil types and, being a woodland plant, can tolerate some shade. They do not like to dry out, so keep watered during periods of extended dry weather. An annual mulch of compost provides enough nutrition for the whole year. I find it easiest to mulch in the fall after the plants have finished.

You can grow strawberries from seed. Sprinkle in a seed tray in the spring, and transplant when big enough. They are mostly propagated by runners, which makes them a very easy plant to obtain for free as there are always gardeners with far too many baby strawberry plants who will be glad to give some away. If you know someone with delicious strawberries, ask for a few runners. Most of mine were obtained in this way, and the mystery nameless strawberries taste just as good as the purchased named varieties—even better as they were free.

Plant in rows about 12 inches apart using a trowel, so that the roots are below the surface and the crown (the nobbly bit where the leaves and fruit grow) is just above soil level. Fall-planted strawberries will bear fruit the following year. If you buy potted strawberries (with established roots, leaves, and flowers) and plant in the spring, they will fruit in the same year.

I am happy to let my strawberry patch become a bit higgledy-piggledy as the runners root. The main thing is to be able to reach all of the strawberries to pick without treading on any plants. If it becomes too overgrown, though, it is more difficult to spot slugs and woodlice, so work out the best balance for your patch.

I grow wild strawberries in containers and also dotted about in various spots in the garden, where they can naturalize. These are incredibly delicious and so abundant that I am happy to share with the birds.

The runners can become a nuisance if left to roam free, and it is worthwhile keeping on top of them. Cut and compost, or share with friends. Strawberry plants are best replaced every 3 years, so in the third year pot some of the runners to make replacements. Cut the runners and pop each little strawberry plant in its own pot. In the fall, clear and compost the old plants and replace with the new ones. If there are concerns that the plants may have become infected with disease, make a new bed and use the old one for an unrelated crop.

Cutting back the leaves and dead flowers after summer fruiting can encourage a new flush of growth and a later crop in the fall, weather

permitting.

Strawberries are much loved by birds, so you need to either grow enough for everyone or protect with bird netting, stretched over cloche hoops or wooden frames and securely fastened so that birds do not get tangled up and harmed. Bird netting allows insects to pass through to the flowers. Remove the netting after harvesting. Badgers also love strawberries and there is nothing much you can do to prevent them. If you have regular badger visitors, consider growing your strawberries out of reach in hanging baskets, wall planters or the greenhouse.

Pick the fruit when ripe. Like all soft fruit, strawberries are best eaten on the day of harvest, and will keep a few days in the fridge. Use damaged fruit to freeze, or make jams and other preserves—check for any hiding woodlice first! When picking, remove any moldy berries or mildewed leaves and compost, especially in damp weather, to reduce any spread of disease.

Currants

Ribes nigrum (blackcurrant); *Ribes rubrum* (redcurrant; whitecurrant; pinkcurrant)

Position: sun
Spacing: 5 ft
Hardiness: hardy

I love currants and grow black, white, pink, and red varieties. Blackcurrants are my favorite (‘Ben Connan’, ‘Ben Hope’, ‘Big Ben’), with their sweet-tart flavor, which I graze on while gardening. All currants are packed full of vitamins, antioxidants, and minerals. Blackcurrants contain far more vitamin C than oranges and twice as many antioxidants as blueberries: a real superfood without any food miles. You can also use the leaves as a tea.

Currants make delicious compotes, preserves, and puddings. I eat whitecurrants fresh (they taste a bit like sweet white wine) and use the pink and red to make jelly for savory dishes during the winter. Blackcurrants make a healthy cordial, which is helpful for winter colds and chills, and a truly delicious wine.

They are easy to grow and maintain, and can be propagated from cuttings in the fall. In my garden, some pop up in unexpected places thanks to birds, so I either leave them or carefully dig up and pot or plant elsewhere. Make a hole the size of the root ball and plant, firming down with your boot. Mulch with compost. Currants require very little maintenance except annual pruning and protection from birds, if desired. Mulch annually with compost or other mulch. They can also be grown in pots.

Currants benefit from pruning annually in late fall and winter when they are dormant. Cut out any old or damaged wood to leave six to ten branches, depending on the size of the bush, for the next year’s fruit. Some years I have missed pruning and they all grew fine, but the fruit was a little more difficult to pick.

Currants can be pruned into a standard shape and also fanned: trained to grow in a shape resembling a fan (see here for fruit pruning resources). I have one that self-seeded next to the hoop house that I prune into a fan shape—practical because it is adjacent to a path.

Birds will strip redcurrants as soon as they are ripe, so grow in a fruit cage or drape some fine insect mesh over the top to reduce damage (birds don’t get tangled up in this). The more intrepid birds will leap from the base of the bush to snatch a few fruits, but I find this works well enough to get a reasonable number of currants for cooking. White and pink ones suffer less damage as the birds don’t seem to recognize when they are ripe, so I don’t cover mine.

Blackcurrants ripen at a time when there is plenty of other food around for wild creatures, but they love them so much that you will lose a considerable number to birds. If it is impractical to have a fruit cage, drape enviromesh over the main bushes or have a few in an edible hedge to share with the birds.

When harvesting, I find it easier to remove individual berries, whereas others prefer to cut the bunches off and sit down to remove them: do what works best for you. A friend once read advice to cut off all of the fruiting branches when harvesting. As a result, her poor, limb-less bushes produced no fruit the following year.

Gooseberry

Ribes uva-crispa

Position: sun
Spacing: 39 in.–5 ft
Hardiness: hardy

A ripe gooseberry picked straight from the bush is a real taste sensation. I feel these easy-to-grow fruits are underrated; they are delicious and versatile, from fruit puddings to chutneys and fresh salsa. I look forward to them every year and grow several varieties to expand the season.

We mostly think of green gooseberries, but there are also white, yellow, pink, red, and purple ones to enjoy. When choosing your gooseberry varieties, think about the flavors you like. I love tart flavors so include one that is not too sweet, but I also love the fat, soft, dessert gooseberries. They are full of vitamins, minerals, and fiber.

Sweet ones, tasty enough to eat from the bush, include ‘Hinnonmaki Red’ and ‘Hinnonmaki Yellow’. ‘Careless’ is a productive gooseberry with a tarter flavor that is superb for cooking and preserves.

Dig a hole the size of the root ball, plant and replace the soil, firming it down. Mulch annually with compost or another mulch suitable for fruit bushes. Plant 4 feet apart, more if you have chosen a sprawling variety.

Gooseberries can have very, very sharp thorns. I wear protective arm covers when picking the especially sharp ones; otherwise, my arms end up badly scratched. You may wish to wear gloves too. There are varieties that are almost thorn-free.

In the winter when the plant is dormant, prune old and any crossing branches to make a more open shape. This makes the fruit easier to pick: a real benefit, especially with the thornier kinds.

Birds love gooseberries, stabbing the soft ripe fruit with their beaks. Protect inside a fruit cage (they are too prickly to cover with enviromesh, as it gets ripped by the thorns) or grow enough to share with the birds. Looking on the bright side, a healthy bird population will also eat your pests.

Gooseberries can get sawfly, the larvae of which cause rapid defoliation of the plants. If you spot any, remove by hand. Predators include some

parasitic wasps, ants, and some insectivorous birds. Spread the leaves of rhubarb underneath gooseberries in spring to deter sawfly.

Pick when slightly under-ripe for making salsa and chutneys, and fully ripe for eating raw and cooking.

Blackberry and hybrid berries

Rubus fruticosus (blackberry)

Position: sun
Spacing: 24 in.
Hardiness: hardy

Hybrid berries are crosses between cane fruits, most often blackberries and raspberries, to produce interesting new berries that crop over a longer period of time. They are ideal for extending your harvest and include boysenberry, dewberry, funberry, jostaberry, loganberry, tayberry, and tummelberry. Every year there seems to be a new hybrid berry to try. If I could choose just one trailing berry to grow, it would be the Japanese wineberry, which has a unique sweet flavor and cannot be found in stores.

Their growing habits are very similar to cultivated blackberries and they are full of vitamins and flavor.

Plant about 39 inches apart for an edible fence or 6½ feet if training across a framework or wall. I train mine along 3mm wires fastened to the fence. You can also make a framework from wires or similar fastened to upright stakes. They are much easier to pick this way, and it is very easy to tie them in.

Mulch every year, water as they establish during the first year if it is really dry, and, other than that, enjoy. They are so easy to look after. Some branches reaching the ground will root, creating new plants that you can share with your friends.

In the winter, cut out any very old or diseased parts. The berries are produced on the previous year’s growth, so cut the current year’s fruiting stems off at ground level, leaving the new growth to flourish for next year.

Birds love these fruits but unless you are growing in a cage, it is often impractical to protect with mesh, so I share mine with the wildlife.

Depending on the variety, blackberries and hybrid berries can crop from early summer until the fall. Blackberries are ready to pick when the fruit is dark and juicy. Hybrid berries vary according to type, so it is worth keeping notes in order to tell when they are ready to pick.

Raspberry

Rubus idaeus

Position: sun
Spacing: 20 in.
Hardiness: hardy

The first taste of a sun-ripened raspberry in early summer is divine. In my garden, I grow different varieties for cropping right through until mid-fall (and even later in milder falls). As well as the deep raspberry reds and pinks, there are yellow, golden orange, purple, and black varieties. They all taste sweet and raspberry-ish. Colorful varieties include: ‘Black Jewel’ (black, summer), ‘Glen Coe’ (purple, summer), ‘Allgold’ (golden-orange, fall), ‘Fallgold’ (yellow-gold, fall), and ‘Malling Passion’ (purple, fall).

Raspberries contain antioxidants, fiber, minerals, and vitamins. Their tiny seeds are rich with Omega-3 and Omega-6 fatty acids. Raspberry leaves, fresh or dried, make an herbal tea that has been used for centuries.

When choosing which ones to grow, look at their cropping times and choose those that overlap slightly to ensure continual crops. Some fall-fruiting varieties I recommend are ‘Fall Bliss’, ‘Joan J’, ‘Polka’; while these are lovely summer fruiting ones: ‘Glen Lyon’ and ‘Glen Moy’ (early), ‘Glen Ample’ (midsummer), ‘Octavia’ (late summer), ‘Malling Juno’ and ‘Malling Minerva’ (spine-free).

Raspberries prefer a sunny position but can tolerate some shade, and damp soil that is not too dry or too wet. In hot summers they will benefit from watering. You can grow them in pots, but do remember to keep them well watered. There are several varieties that have been specially bred for containers, usually referred to as a “patio raspberry.” Raspberries are very invasive, so containers should not be placed on soil, or they will “escape” and spread.

They spread with sucker-like roots underground, and can take over neighboring beds. Some of mine are “fenced in” by a concrete pathway that contains them. To help reduce the spread along the edges of the raspberry bed, install 8-inch edging so that most of it is beneath the surface. Alternatively, during the growing season go along the edge with a sharp spade or lawn edger to cut through any suckers.

Plant from late fall to early spring, preferably when the ground is not frozen, 10 inches or so apart. This looks a bit sparse but they quickly spread. Cut the canes of fall-fruiting raspberries back to 6 inches after planting. Leave summer-fruiting ones (if they are long canes) as they are; otherwise, you will get no fruit in the first year. Mulch the bed with compost and water in. Be careful when handling and pruning raspberry canes. Most have hairlike prickles strong enough to pierce your skin (easy to remove with tweezers), so I usually wear gloves.

They can benefit from being tied to wire supports or stakes, especially summer raspberries (which are usually taller) or if in an exposed position. A simple way to do this is to hammer stakes around the bed and fasten wire or string to the stakes, supporting the canes and preventing them from flopping over the paths. If you have especially tall summer-fruiting raspberries, tie these to canes or wires for extra support.

Garden-grown raspberries do not need any feeding other than the annual mulch. For those grown in pots, use a liquid food and mulch the pot with some compost each year.

Summer-fruiting raspberries—floricane—produce fruit on the previous year's canes, usually from early to late summer. After harvest, cut the canes that have fruited (not the new growth) down to ground level. Fall-fruiting raspberries—primocane—produce fruit on the current year's growth, fruiting from late summer to mid-fall and beyond. In late fall, cut all of the canes down to 3 inches above ground level. Mulch in the winter.

Birds love raspberries, and summer ones are at risk because there are fewer other soft fruits available. Mine are in a bed with currants that are netted. I don't net the fall raspberries as there are so many different fruits available at that time for the birds to eat. Raspberries have very few other problems. If the leaves look pale yellow and forlorn, spray the leaves and soil with a solution of epsom salts. If the yellowing is on already fruited summer raspberries, most likely the cane is exhausted: remove the cane.

Ripe raspberries will have a deep color and feel plump. If it is very damp and you are not eating them that day, freeze them for later use, or make into raspberry vinegar (see here). In good weather, fresh raspberries will last for several days in the fridge.

Blueberry

Vaccinium

Position: sun
Spacing: 39 in.–5 ft, depending on variety
Hardiness: hardy

Blueberries love an acid soil, with a pH of 4.5–5.5, so unless you have this, they are best grown in containers filled with soil for acid-loving plants. There's something rather magical about having these sweet, vitamin-packed fruits growing in your garden. I have five bushes, which produce enough blueberries from midsummer to late summer for my family to enjoy fresh. There are many varieties to choose from, including 'Bluecrop', 'Earliblue', and 'Ivanhoe', to ensure cropping over a longer period. There are pink blueberries, such as 'Pink Lemonade', which seem to be less attractive to birds.

If you have acid soil, make a hole the size of the root ball and plant. For container-grown blueberries, select a good-size pot that is 12–20 inches in diameter depending on the size of the plant, which will accommodate your bush as it grows. Check for size: if you have a smaller space, select a dwarf variety.

Use a good quality soil mix and firm it down when planting. Some commercial mixes contains enough food for the whole first year (see here). You can also add spent coffee grounds and tea leaves, pine needles, composted conifers (finally something to do with conifer clippings!), and feed annually in spring with an extra mulch, liquid seaweed, or comfrey/nettle feed.

Water regularly during dry spells so they do not dry out. I have had no issues from using tap-water as well as saved rainwater.

They make a lovely pot plant, with pretty flowers in the spring, and after fruiting in the fall the leaves turn a fantastic bronze-red. I pop wild strawberries or low-growing edible flowers such as violas into the pot. Blueberries in pots do not need much pruning and none at all in the first 2 years. After that I remove any damaged branches and cut out any branches that are crossing to keep the plant productive.

Birds will strip the bush in a moment! Protect by covering with fine insect mesh once the fruit starts to change color (not before, so that insects can reach the flowers) and fastening it carefully so that there are no gaps for birds to sneak in; alternatively, grow inside a fruit cage.

Pick and enjoy fresh. Blueberries store for a few days in the fridge, freeze beautifully and make decadent breakfast pancakes.

Grape

Vitis vinifera

Position: sun, under cover in colder areas
Spacing: 8 ft
Hardiness: hardy

I am more of a grape-growing enthusiast than expert, so see here for recommended books if you want to grow grapes more professionally. In my garden I have five grapevines, some growing outside and others under cover, including Welsh heritage varieties.

Grapevines look beautiful, clambering and intertwining, dripping Dionysian bunches of colorful sweet jewels in the late summer and fall, when the leaves turn a rich fiery red.

The leaves are, of course, edible, making delicious dolmades stuffed with a mixture of rice, vegetables, and spices. Growing a grape vine gives you the opportunity to use these tasty leaves in your cooking.

Choose your variety carefully, considering where it will grow and whether you want dessert or wine grapes. Some will grow well outside in some climates, whereas others really need the extra protection of a greenhouse. When choosing grapes to plant here, I choose Welsh heritage varieties because they are likely to cope better with the growing conditions on this hillside than those bred for sunnier, warmer locations.

Make a hole the size of the root ball and plant. Mulch with compost and water well. Make sure the plant does not dry out during the first year, so water regularly if there are long dry spells.

One of the most difficult things is removing the flowers during the first year to help the plant establish, but it really is worthwhile. The following 2 years, reduce the fruiting bunches to three or four, and after that you can allow more of the fruit to grow. Thinning out helps to ensure lovely bunches of fat grapes. Otherwise, you are more likely to get numerous quantities of tiny grapes—tasty but not so sweet.

As the bunches grow, thin dessert grapes out by about a third. This improves air circulation and helps to produce riper, fatter grapes. I use a pair of embroidery scissors or long thin pocket snips. You do not need to thin out wine grape bunches.

There are various styles of grape growing; see here. During winter, prune your grapevine into the style you desire.

Although grapes will be nibbled by birds, it really isn't humanly possible for most of us to protect them!

Cut bunches when ripe. Harvest the leaves at any time of the growing season.

Apple

Malus domestica (F)

Position: sun
Spacing: depends on variety, rootstock and how they will be grown: full size, espalier, stepover (T-shaped) or in a pot. M25 rootstock (the most vigorous) requires 20 ft spacing, whereas a dwarf container-grown tree needs an 18–24 in. pot.
Hardiness: long lived, hardy

Growing your own apples opens a dazzling range of possibilities. There is nothing quite like eating a really flavorful apple fresh from the tree. The varieties sold in stores tend to be bred for uniformity of size or storage capabilities.

Apple trees benefit from growing near other apples, so that insects cross-pollinate the flowers. If you can only have one tree and live in an area with no other apples, choose one of the self-pollinating varieties, such as ‘Red Falstaff’, ‘Spartan’ or ‘Winston’.

Once established, apples require little care, unless the weather is very dry for an extended period, when watering will be beneficial for fruit production. Prune every year in the winter, removing about a third of the growth by cutting off whole or part of the branches, whichever seems most appropriate for your tree. Cut out any diseased branches and any that are crossing over close together. Summer pruning helps to keep the tree more compact, ideal for smaller gardens.

During summer, some fruit will fall; this is perfectly normal. If there are still a lot of apples remaining, it is worthwhile thinning them out yourself by removing one from every pair with a twisting motion (or one out of every three, if they are not growing in pairs). This benefits the tree because it is not supporting a large amount of fruit and increases the size of the remaining apples.

Harvesting times vary according to the variety, but all should have a good color and size for the particular variety. To check whether an apple is ripe, gently cup with your hand and give a slight twist. It should easily

come away from the tree, with the stalk intact. If you're having to tug, the apples are not ready to pick.

Harvest out-of-reach apples using an apple picker (see here).

Damaged apples and windfalls need to be used quickly as they won't store. Only store apples in perfect condition, in crates in a cool, frost-free place away from rodents.

Cooking apples are tarter than eating apples and keep their shape when cooked. Varieties include 'Blenheim Orange', 'Bramley's Seedling' and 'Howgate Wonder'.

Crab apples—see Foraging.

Dessert apples are sweet enough to eat raw and can also be used in cooking—try 'Rosemary Russet', 'Sunset', or 'Worcester Pearmain'.

Cider apples have a high tannin content that makes them unpalatable raw, but ideal for making good cider. Traditional varieties include 'Dabinett', 'Kingston Black', and 'Red Foxwhelp'.

Cherry

Prunus avium (sweet); *Prunus cerasus* (sour)

Position: sun or partial shade
Spacing: depends on variety, rootstock and how it will be grown: full size, fan or in a pot. Potted trees need an 18–24 in. pot. Full-size trees need to be spaced 8–18 ft apart.
Hardiness: hardy

I grow two kinds of cherries: sour cherries (‘Montmorency’, ‘Morello’) for cooking and sweet cherries (‘Knight’s Early Black’, ‘Merton Glory’, ‘Penny’) to snack on fresh. They are very prolific and ideal for a small garden if grown on a dwarfing rootstock. Only prune in the summer due to a susceptibility to canker and silver leaf. I keep my potted cherries pruned to a manageable size so that I can protect them from birds. The large cherry trees are impossible to protect so the harvest is shared with the wildlife.

Birds will strip a tree as soon as the fruit is ripe, so when the cherries start to change color cover smaller trees with fine mesh; secure all seams with clothespins and weight down at the bottom with stones. Once the fruit is ripe, harvest and remove the cover.

I also grow cherries pruned to a smaller size in the large fruit cage here, which protects them from birds. There are three huge cherries, varieties unknown, in the garden that produce vast amounts of fruit that are devoured the moment they ripen by enthusiastic birds and other wildlife!

Cherry blossom in the spring smells like sweet cherries and can be used to make infused vinegars, sugars, and cream.

Plum and gage

Prunus domestica (plum); *Prunus domestica* subsp. *italica* (greengage)

Position: sun
Spacing: depends on variety, rootstock and how it will be grown: full size, trained or in a pot. Potted trees need an 18–24 in. pot. Full-size trees need to be spaced 8–25 ft apart.
Hardiness: hardy

Plums and greengages are such delicious and versatile fruits, ideal for all manner of sweet and savory dishes and preserves. I had a large plum tree in my previous garden, and here in Wales have planted several plums and greengages, mostly heritage varieties suited to a cooler, damp climate, including the Welsh heritage ‘Denbigh Plum’. For small gardens, choose a dwarfing root stock.

They will grow in most situations, including in pots, but try to avoid planting in a frost pocket because they flower early and a heavy frost can kill the flowers. Keep well watered in the first year.

If you live in an area with a later frost date, it is worth considering growing later-flowering varieties such as ‘Guthrie’s Late Green’ greengage or ‘Marjorie’s Seedling’ plum to reduce the risk of damage to the blossom.

These trees can be grown in a variety of styles, responding well to pruning into beautiful shapes, including fans (good if growing against a fence or wall). I grow mine more freestyle in the rest of the garden.

Pruning is mostly to keep the tree in the shape you desire and to remove diseased or crossing branches. They are prone to the fungal disease of silver leaf (*Chondrostereum purpureum*), so prune from early to late summer.

If you have the space for two or three trees, choose varieties that fruit at different times to extend the season.

‘Early Prolific’ plum crops in midsummer, ‘Avalon’ in late summer and ‘Marjorie’s Seedling’ in early fall. For greengages, ‘Denniston’s Superb’ crops in late summer, ‘Cambridge Gage’ in early fall, and ‘Golden Transparent’ in mid-fall.

If I could only grow one kind, it would have to be a greengage, because the fruit is almost impossible to buy in stores. The greengage here is

‘Denniston’s Superb’.

Peach and nectarine

Prunus persica (peach); *Prunus persica* var. *nectarina* (nectarine)

Position: sun
Spacing: depends on variety, rootstock and how it will be grown: full size, trained or in a pot. Potted trees need an 18–24 in. pot. Full-size trees need to be spaced 10–15 ft apart.
Hardiness: hardy

One year I was given a rescued nectarine that was being thrown away. I popped it in a pot and was rewarded that summer by half a dozen beautiful fat fruits. The flavor is quite unlike anything you buy in stores: it is exquisite. Sadly, the following year the little tree succumbed to peach leaf curl, which is caused by the fungus *Taphrina deformans*.

Both peaches and nectarines are prone to peach leaf curl, which causes severe distortion and loss of the leaves, so it is beneficial to grow them with some protection from heavy rain. You can make a shelter from plastic sheeting attached to a wall or fence, and for that reason it could be a good idea to grow your peach or nectarine, if you are planting it in the ground, against a sunny wall or fence. Indeed, most are planted against a wall and fan trained for maximum fruit ripening.

I grow peaches and nectarines inside the hoop house; one is hard pruned to keep a small tree shape and four are trained. I choose varieties that are either Welsh heritage, such as ‘Marquess of Anglesey’s Peach’, or from the north of England, so that they are used to similar growing conditions.

Peaches and nectarines fruit at different times, depending on the variety. Of the former, ‘Hale’s Early’ ripens in midsummer, ‘Peregrine’ in late summer and ‘Belle Garde’ in early fall. ‘Nectarine Early Rivers’ crops in midsummer,’ Fire Gold’ in late summer and ‘Madame Blanchette’ in early fall.

Some peach varieties such as ‘Avalon Pride’ are resistant to peach leaf curl. Most produce the familiar round fruits, but some have flat ones, such as ‘Saturn’, which resemble a doughnut!

Peaches and nectarines need just a little pruning for the first year. Larger trees (those that are being grown to their full potential) are pruned so that

the desired shape is maintained, and to replace fruited wood with newer growth.

Peach leaves are edible with an almond flavor. They are used in vin de pêche, a traditional French infused wine made with red wine, peach leaves and brandy.

Melon

Cucumis melo (melon); *Citrullus lanatus* (watermelon)

Position: sun, under cover in cooler climates
Spacing: 18 in.
Hardiness: tender

Every year I grow melons and Cape gooseberries from seed. Growing your own melons is rather exciting, and the fragrance of a perfectly ripe one is something to savor. Sow from mid-spring in a propagator on gentle heat in individual cells. When large enough, pot and keep in a warm, frost-free place until it is time to plant in the greenhouse.

If you are growing outside, depending on your last frost date, sow varieties more suitable for outdoor growing in late spring. They grow quickly, so you do not want them to get too big before they can be planted. It will help to cover new plantings with a layer or two of fleece for the first few weeks, to protect against weather, until they have established.

Harvest when the melons are ripe and store in a cool place for a few weeks. To check whether a melon is ripe, tap the skin. A ripe melon will sound hollow. For many varieties the melon should also smell sweet and enticing.

‘Early Moonbeam’ watermelon is a particular favorite here. It crops well in cooler climates, has fairly small fruit (3½–6½ pounds) with sweet yellow flesh. Like all watermelon, you can pickle the skin too. ‘Rich Sweetness’ is a very productive small (3–4 inches) melon with a delectable sweet flavor and beautiful striped skin.

Cape gooseberry

Physalis peruviana

Position: sun, under cover in cooler climates
Spacing: 24 in.
Hardiness: tender

Cape gooseberries are sown in the same way as melons and can be grown either under cover or outside. They are very prolific so you may not want more than one or two plants. The orange fruits are an unusual flavor, very pretty in their papery covers, and produce over a long season until killed by fall frosts.

Harvest from midsummer to early fall (or later if grown under cover), when the fruit is a bright orange and the husks have turned papery and brown. Store for a week or so in the fridge, or remove the husk and freeze.

Cape gooseberries may survive the winter and regrow in the following spring, if under cover.

The honorary fruit

Rhubarb

Rheum × hybridum

Position: sun or light shade
Spacing: 32 in.
Hardiness: hardy

In a category all of its own, I love rhubarb for its sculptural qualities, early cropping, long season and unique flavor. It is actually a perennial vegetable, but although it is widely used in savory dishes, from a culinary perspective rhubarb is treated as a fruit. It is so easy to grow and, once established, there is little that it requires beyond an annual mulch in the winter when dormant. ‘Timperley Early’ is an excellent variety for really early rhubarb that is good for forcing and can produce in late winter. Stop picking early rhubarb around midsummer. Add a summer-maturing one to the garden to continue the harvest until later in the year.

Forcing rhubarb is a common practice in the UK. It encourages the plant to grow early, tender, pale pink stems which are sweeter in flavor. Traditionally, this was done using terracotta rhubarb forcers, but as these are expensive I use an old metal dustbin instead. Whatever you use, it needs to be at least 12 inches tall and exclude the light. Place over the whole of the emerging rhubarb crown in mid-winter or late winter. Leave for around 8 weeks, then remove the forcer and harvest the stems. Leave to grow uncovered, being sure not to harvest any more stems from this crown so that it can regain its vigor. It is important to leave at least a year between forcing to protect the health of the plant, so I grow several clumps to force in rotation.

Every few years, rhubarb benefits from being split when dormant to maintain productivity and plant health. Plant some elsewhere or pot to share.

Rhubarb leaves are toxic and must not be consumed but are fine to compost.

HERBS

Growing herbs brings the garden to life, increasing fragrance, color, and biodiversity. They are excellent companion plants for vegetables, fruit, and flowers, and wonderful to grow in their own right. They are one of the easiest plant groups, with many requiring very little attention once established. Most herbs can be grown in pots, which makes them ideal for small spaces, including indoor windowsill gardens.

Traditionally, herb gardens were a place of calm and healing, with many herbs having powerful medicinal properties. Even just a few in a pot can help to reduce stress and encourage relaxation. Sipping a freshly brewed cup of herbal tea while stroking deliciously scented leaves and flowers can help your troubles slip away. Simple herbal remedies, including chamomile to aid sleep, and mint for digestion, enable us to be more self-reliant and healthy.

Always consult a medical professional if you are on medication, because some herbs can adversely react with them.

Growing herbs

A key reason for growing herbs is, of course, culinary. They add an extra dimension to meals, drinks, and preserves. Close to the home, they are always available to add to dishes, and can be harvested at the peak of flavor. Each herb has its optimum time to be picked, and so growing your own enables you to enjoy the flavors at their absolute best.

Homegrown herbs also enable us to enjoy edible flowers, seeds, and even roots that are not usually available in stores. For example, the flowers of fennel (including its vegetable cousin, Florence fennel) are exquisite nibbled fresh from the plant, the green seed pods of sweet cicely are just like sweets, and chive flowers make the most delicious infused vinegar. In addition to their culinary uses, herbs are a key ingredient of a number of body and home care recipes.

Many are available in a huge range of flavors and colors. There are thought to be over a hundred varieties of basil, but usually just two or three are on offer in stores. I grow about fifteen varieties, including Thai, cinnamon, and lime, giving me the opportunity to try cuisines and flavors from across the globe.

Herbs are also usually very easy to dry and store. Most can be hung in bunches, and are traditionally dried hanging from herb-drying racks. This simple way of preserving also looks beautiful in the kitchen.

Choosing the location

When planning an herb garden, consider the growing requirements of each plant. Most herbs thrive best in a sunny location with a well-drained soil. Here in wet Wales, Mediterranean herbs such as rosemary or sage won’t thrive in damp conditions so I grow them in pots or in the ground in the sunniest, most well-drained parts of the garden. Tender herbs such as basil and lemon grass need a minimum temperature of 50°F at night and plenty of light; below that they will struggle to thrive.

Most herbs grow well in pots, in particular mint and lemon balm, which are invasive and can take over if planted in the soil. This makes them ideal

for smaller-space growing, or in places with little or no soil. Fill the pot with three parts multipurpose compost or soil, and one part gravel, so that it is free draining. During the winter months, I bring potted herbs such as lemon verbena under cover (greenhouse or sheltered porch) to protect them from the worst of the winter weather. Although many herbs are hardy, pots can become waterlogged and freeze, killing the plants.

Annual herbs such as basil or dill flourish interplanted with vegetables in the garden, making the most of space. Perennials such as lavender or thyme grow well on the edges of the vegetable beds, creating a beautiful, edible border, a rustic homespun version of the traditional herb borders of a potager.

The benefits

Growing your own saves money, especially when compared with the price of a few sprigs of fresh herbs in the supermarket, and we can be assured that they are at their peak of health and not sprayed with chemicals. Selling bunches of dried or fresh herbs can also offer an income stream. Many are easy to propagate from cuttings or division, which can be potted and sold.

Herbs are very beneficial for the ecosystem, with many having a long flowering period, attracting predator and pollinator insects. Perennial herb plants also provide a habitat for insects to live and hibernate, and their seeds provide food for birds and small mammals. They can help protect the soil against erosion, especially the spreading perennials such as marjoram and thyme.

Bushy herbs, including rosemary and lavender, can make attractive hedging. In the past, laundry was sometimes spread across large lavender bushes to dry, infusing it with fragrance.

Choosing the herbs

I grow dozens of different kinds of herbs, both perennials and annuals. Here are twelve of my favorites. It wasn’t possible to include everything I wanted: that would take up a whole book. I couldn’t feature sage and lavender, but they grow very similarly to rosemary. I chose to include three gloriously lemon-flavored herbs; these help with self-sufficiency, especially when living in a country that is not ideal for growing lemons.

Annual herbs

Dill

Anethum graveolens

Position: sun
Spacing: 6 in.
Hardiness: tender

Dill is a delicious annual whose pretty feathery leaves have a mild aniseed flavor. Growing to over 36 inches tall, the leaves, flower heads, stems, and seeds are all edible. Use the fragrant flower heads in pickles and other preserves.

Dill can be sown year-round, either as plants from spring to fall, or as a cut and come again herb during winter. It can overwinter in greenhouses during mild winters.

Sow two seeds per cell in trays of compost in a warm place. They take about a week to germinate. Keep in a warm, light position until they are about 4 inches tall, then plant after the last frost. Alternatively, direct-sow in rows from late spring to early fall. Dill can be grown in large containers.

Dill and fennel look similar and must be grown separately to avoid cross-pollination.

After flowering and producing seeds, plants will start to die back. To have a continual source, sow every few weeks. Dill self-seeds freely.

The leaves are best consumed fresh as you need them, but for year-round use, dry or freeze. Pick the flowers as soon as they bloom for optimum flavor. The seeds can be used green, or harvest when they turn brown to store.

Use the tough stems in sauces, soups, and broth as a flavoring; remove before consuming. Chopped, dried dill stalks are hollow and make lovely bug houses. The seed is used medicinally to ease digestive problems and hiccups.

Cilantro (coriander)

Coriandrum sativum

Position: sun
Spacing: 4 in.
Hardiness: tender

One of the main advantages of growing cilantro is that it enables you to harvest all of the plant and use parts not widely available. Cilantro roots are common in Asian cuisine, but rarely sold here. Cilantro flowers are edible, and the immature green seeds (coriander) delicious. It is worth growing cilantro just to enjoy the seeds, which have a lemony flavor and are especially good sprinkled onto hummus. Otherwise, leave them until brown to use as a spice or for sowing.

Propagate by seed from spring to fall. Sow two or three per cell into trays (on gentle heat during the cooler months). Once they have germinated, in 2 weeks or so, move off the heat but protect from cold. Plant in the garden, protecting with fleece or a cloche if necessary. Fall sowings should be planted out in a greenhouse or other under-cover location.

Cilantro bolts during hot weather, so for year-round harvests grow as a cut and come again crop during summer. Slow-bolting varieties are available from seed companies, and are worth growing during the hotter months.

For a cut and come again plant, sprinkle seeds on the surface of pots of soil and lightly cover. Harvest when the plants are 4–6 inches tall. This also works for winter harvests on the kitchen windowsill. You can buy coriander seed, sold for cooking, as a thrifty way of growing intensively like this. As cut and come again, cilantro does not grow for long: start the next batch once the first seedlings have sprouted.

Cilantro leaves, flowers, stems, green seeds, and roots are best consumed within a few days of harvest; dried seeds can last for a year or more. Medicinally, it is used to aid the digestive system.

Basil

Ocimum basilicum

Position: sun, best grown under cover in the UK
Spacing: 8 in.
Hardiness: tender

Versatile and delicious basil is easy to grow from seed for its aromatic leaves and flowers in an incredible range of flavors. Sweet basil is the most familiar, widely used in pestos and is the variety generally found in supermarkets. An advantage of growing your own is that you can explore basil's rich diversity. My favorites include Thai, lime, lemon, cinnamon, purple, and large lettuce leaf basil; the last can be used as a wrap.

Basil needs warmth and light to germinate. Sow seeds in gentle heat and transplant into individual cells or small pots. It will not thrive in cold, damp conditions so keep in a warm, light place until danger of frost has passed.

Basil can also be bought as a plant or propagated from cuttings. Cut shoots just below a leaf, remove the lower leaves, pop the cuttings in a jar of water, and pot when they produce roots. Supermarket basil sold as a potted plant usually contains at least eight individual plants, and is a cheap way to get lots of plants quickly. Soak the root ball, carefully tease the individual plants apart, then place each one in a pot of soil. Firm down, water, and place in a warm, light place to grow.

In cooler, damp climates it is more productive grown under cover in pots or planted into the soil in a hoop house or under cloches. Once established, basil is easy to look after. Regularly remove the edible flowers to encourage sustained leaf growth. To harvest, pick leafy shoots, which helps to maintain bushiness and keeps it productive.

As the days shorten in fall, basil will become less productive and gradually die. It is possible to keep it alive on a warm, bright windowsill over winter, but it will eventually become straggly. Alternatively, for fresh leaves, scatter seeds over the surface of a pot of potting soil to grow as a cut and come again micro leaf.

'African Blue' is a spicy perennial variety that can grow to about 30 inches. It also needs a warm, light place to overwinter. The flowers are

spectacular and, unlike the annuals, allowing some flowers to bloom does not affect leaf productivity.

In addition to its many culinary uses, including flavoring pesto, salads, oils, and sauces, basil also has medicinal properties including treating inflammation and easing upset stomachs.

Perennial herbs

Chives

Allium schoenoprasum

Position: sun or partial shade
Spacing: 6 in.
Hardiness: hardy

Chives are members of the onion family whose leaves and edible purple flowers have a mild onion flavor. They are easy to grow, producing abundant leaves and decorative edible flowers.

In addition to *Allium schoenoprasum*, there are other chives worth growing, including Welsh onion (*A. fistulosum*, also known as Japanese leek), garlic chives (*A. tuberosum*) with white, star-shaped flowers, and Siberian garlic chives (*A. nutans*), which grow to 24 inches. All have different onion or garlic flavors and edible flowers and leaves.

Propagate by seed and division. Sow in early spring, spreading seeds thinly in pots and covering with a thin layer of compost. Germinate in a warm location, such as a windowsill or heated tray; keep in a light, warm place to grow. Plant outside when they are about 4 inches tall.

To grow new plants by division, split established chives in the spring into groups of about ten bulbils, and pot. Alternatively, grow in pots on the kitchen windowsill for year-round harvests.

To harvest, cut the leaves just above ground level when needed, or dry or freeze for winter use. They are delicious in all kinds of raw and cooked dishes.

The flower heads are excellent in salads, and make wonderful infused vinegars. After flowering, remove the flower head and the stem to encourage more leaves.

Lemon verbena

Aloysia citrodora

Position: sun
Spacing: 12 in.
Hardiness: frost hardy to -6°C (21°C)

If I had to choose just one herb to grow, it would undoubtedly be lemon verbena. With the fragrance and flavor of lemon sherbet, this aromatic woody shrub is almost worth growing just to inhale the scent of its freshly crushed leaves. Both leaves and flowers are edible.

It takes several years for seed-grown plants to become a useful size, so it is better to propagate from cuttings. Take softwood cuttings in late spring from new growth and put into pots of compost. Potted plants are widely available. Feed container-grown plants every 2 weeks during summer.

Though frost hardy to 21°F, wet and cold conditions can kill it so grow in pots and bring under cover during winter. Mulch with a layer of compost or straw to help protect the roots in cold areas.

Harvest leaves during late spring, summer and fall. They dry very easily for long-term storage. Leave enough leaves on the plant in fall so that it can naturally shed them as part of its transition into winter dormancy.

Lemon verbena can be used to replace lemons or lemon zest in recipes. It makes a wonderful relaxing tea. Use the leaves fresh or dried to make infused drinks, flavored oils and vinegars, infused milks for desserts, in sugars and salts, as well as in salads, and baking. Sprigs are wonderful in body care products and home fragrances, including potpourri.

Lemon grass

Cymbopogon citratus

Position: sun
Spacing: 12 in.
Hardiness: tender

Lemon grass is the trickiest lemon-flavored herb to grow, but worth it for its versatility in Asian and West Indian cuisines. In tropical climates, lemon grass is perennial and grows to over 4 feet tall. In cooler locations, it takes a long time to reach that size and freezing winter temperatures kill the plant, so grow it in a pot and overwinter in a warm place.

Lemon grass can be propagated from stems bought from international food stores; choose ones that have some roots attached. Place the root end in a jar of cold water, and leave in a warm place until the roots are formed; pot and keep in a warm, light location until established. Sow seeds in early spring in warmth under cover, a small pinch of seeds in either pots or seed trays. A heated tray is ideal, but a warm sunny windowsill will work too. Germination takes several weeks. Once the seedlings have strong growth in the trays, transplant to pots and continue to keep warm until danger of frost has passed. It can be propagated from cuttings in spring by removing the outer stems from an established plant, and placing in water until roots are formed before potting on. In warm countries, where it flourishes outside, it is also propagated by division.

Lemon grass grows bigger when planted in the ground. In cooler climates it is best to plant under cover (hoop house or cloche), 12 inches apart. Mulch after planting and water during dry spells. In pots it needs to be kept well watered; feed every 2 weeks during summer.

To harvest, choose stems at least the thickness of a pencil, and pull or cut from the plant as low to the base as you can. Stems keep for a week in the fridge, or preserve by slicing and drying or freezing; use in soups, curries, stir fries, and desserts. It makes a delicious cordial and infused alcohol. Use the leaves to flavor rice, vegetables, soups, and sauces; tie in a bundle and remove before eating.

Medicinally, lemon grass is antiseptic, antibacterial, antifungal, and aids digestion. The tea is used to help relieve stress and anxiety. It is an excellent

addition to homemade cleaners and bath products.

Lemon balm

Melissa officinalis

Position: sun or partial shade
Spacing: 12 in.
Hardiness: hardy

This aromatic lemon-scented herb has a wide range of culinary uses. In addition to green leaves, there are also variegated and golden leafed varieties. It grows in most soils apart from waterlogged.

In spring scatter seeds on a tray of compost and cover with a light layer of compost. Place somewhere warm until germination, which takes 2 to 3 weeks. Keep the compost moist by spraying with a bottle filled with water, as needed. Transplant when large enough to handle into individual pots.

It does not come true from seed, so to get named varieties you will need to buy plants or grow from cuttings or by division. Take cuttings in late spring and early summer, and plant in the ground when they have rooted. Divide in the spring or fall and pot the new plants.

Lemon balm is invasive, spreading from its roots and self-seeding freely. Cut the flowers back before they go to seed; dividing in fall will help to keep plants grown in the ground under control. It grows well in containers.

Both leaves and flowers are edible. The leaves are most flavorful before flowering and after regrowth once you have cut back the flowers. Lemon balm has a wide range of culinary uses including salads, sauces, infused drinks and tea, flavored salts and sugars, vinegars, and desserts. When added to fruit, it reduces the amount of sugar needed. It is a good digestive and an excellent addition to home and body products.

Mint

Mentha species

Position: sun or partial shade
Spacing: 12 in., but best grown in pots 12 in. wide
Hardiness: hardy

Mint is one of the most widely known herbs, with an impressive range of flavorful varieties including chocolate, ginger, apple, banana, and peppermint.

The only mint that comes true from seed is pennyroyal, which should be sown uncovered on the surface of pots of compost in the spring. Place somewhere warm until germination, which takes about 20 days.

To get a specific mint variety, buy plants or grow from cuttings or division in spring or fall. For optimum plant health, divide potted mint every few years. Take softwood cuttings in late spring—a sprig of mint will root in a week or two placed in a jar of water—or take rooted cuttings at any time during the growing season. Mint roots very easily.

Mint thrives in most kinds of soil except waterlogged, but it is invasive and therefore best grown in pots. Keep one variety per pot; otherwise, the distinct flavors will be lost and they'll end up tasting the same.

Harvest from spring through to the end of fall by picking leaves and shoots, which also encourages bushiness and more leafy growth.

After flowering, cut back to encourage new growth. Mint goes dormant in winter so cut and dry sprigs during the spring and after summer flowering for use then. Its growing season can be extended by moving pots under cover (greenhouse or windowsill) in the fall.

Use mint in many kinds of dishes, including pestos, sauces, and salads, and add to new potatoes. It makes a wonderful cordial and refreshing tea.

Medicinally, it has antioxidant and antiviral properties, and is widely used in herbal medicine. It is an excellent ingredient in home cleaning products. Pennyroyal is traditionally used as an insect repellent.

Sweet cicely

Myrrhis odorata

Position: sun or partial shade
Spacing: at least 20 in.
Hardiness: hardy

This aniseed-scented and flavored herb should be more widely grown, as it can reduce fruit acidity so less sugar is needed in recipes. It is marvelous with rhubarb: the addition of a large handful of leaves means that only half the usual amount of sugar is required.

Sweet cicely has delicate fern-like leaves and sweetly scented white umbel flowers that produce bright green seeds (black when mature). The whole plant is edible, including the root, which is used similarly to parsnips, roasted or boiled, and is also tasty raw. Cooking reduces its aniseed flavor.

At about 3 feet tall with a deep tap root, it is not ideal for container growing. If you do, give it a large, deep container. One or two plants is usually plenty.

Propagate by seed or division. Seeds require a period of cold to germinate, so sow in fall directly in the ground where they are to grow or in pots outside; they will germinate in spring. Alternatively, divide established plants in fall and either replant elsewhere or put in pots. It can also be propagated from root cuttings in spring.

Sweet cicely is one of the earliest spring flowers; pick for culinary use when they are in full bloom and before the green seed pods have formed. Leaves can be used fresh or dried for winter. The green seed pods are delicious chewed raw and eaten like sweets, and are also good in cooking; ripe seeds are more strongly flavored.

It is also used as a tea, salad vegetable, in sauces, dressings, and soups, and to infuse drinks, as well as a sweetener in fruit-based recipes. It has medicinal properties including easing coughs, aiding digestion, and reducing flatulence. Crushed, the leaves and seeds can be used to polish furniture.

Oregano

Origanum vulgare

Position: sun
Spacing: 10–12 in.
Hardiness: hardy

Oregano is an easy-to-grow, drought-tolerant Mediterranean herb with a spicy, peppery flavor. Growing in a low clump, around 12 inches tall, with small leaves and flowers, it makes good ground cover and does well in containers.

Sow a few seeds on the surface of a pot of compost and leave in a warm place, uncovered, until they germinate, which can take up to 20 days. Keep the compost moist. For a specific variety, propagate from cuttings in summer or by division in spring. Or propagate by layering, which often happens naturally, with new plants forming close to the parent plant; remove and pot.

Oregano is closely related to sweet marjoram (*Origanum majorana*), which needs the same conditions, is propagated in the same way, and has leaves with a sweeter, milder flavor. Marjoram is a cold-sensitive tender perennial, however.

Harvest whenever you want a few sprigs for cooking. Dry bunches for use during winter.

In fall, cut back the flower stems once they have gone to seed, and cut back that year’s growth to maintain a tidy clump that does not become straggly and to encourage new leaves, which help to protect the plant over winter. It usually survives unprotected, unless the weather is extremely cold when some protection is helpful.

In the kitchen, oregano is widely used in tomato dishes, especially pasta and pizza sauces. Medicinally, it is good for digestion, can help to ease headaches and to treat coughs and colds. It has antiseptic properties and is a useful herb in home cleaning products.

Rosemary

Salvia rosmarinus

Position: Well-drained soil and sun
Spacing: 24 in.
Hardiness: hardy to 14°F

A highly fragrant, versatile shrub which can be harvested year-round, rosemary is used medicinally, in the kitchen and in the home. A few sprigs in warm water can help with concentration and freshens the air. The edible flowers range from blue, purple, pink, and white.

Originating in the Mediterranean, rosemary is drought tolerant but will need watering during extended periods of dry weather, or when newly planted. Mulch with compost or wood chips when planting.

Not all plants grow in the familiar upright manner: trailing varieties are ideal hanging over the sides of raised beds or creating ground cover. The flavor of the leaves of different varieties can include pine, menthol, and ginger.

Although generally robust and requiring little attention beyond annual pruning, in heavy, damp soils it can struggle and is better grown in a raised bed or large pot. A pot also enables it to be moved to a sheltered spot during wet, cold winters.

Prune annually after flowering to encourage fresh growth and prevent it becoming woody; use the semi-ripe cuttings to propagate in summer. Low-growing varieties can also be propagated by layering.

One large plant can provide enough for a few sprigs each week. Cut sprigs of young growth above a leaf node, in the morning after the dew has dried but before the heat of the day. When harvesting on a wet day, pat dry on a clean tea towel. It’s easy to air-dry in bunches until brittle.

In addition to its culinary uses, rosemary has antioxidant and antibacterial properties useful for herbal remedies and homemade cleaning products.

Thyme

Thymus vulgaris

Position: well-drained soil and sun
Spacing: 8–12 in., depending on variety
Hardiness: hardy

A versatile, evergreen Mediterranean herb, thyme has an extraordinary range of different flavors, shapes, scents, and colors. Its small edible flowers can be deep purple, red, or pale pink; some varieties have variegated or golden leaves.

Easy to grow and requiring little maintenance except pruning, in heavy damp soils it is better in a raised bed or pot. Although hardy, thyme grown in pots is more likely to survive periods of deep cold if moved to a sheltered location under cover. It is relatively drought tolerant, although potted plants will need watering in dry weather; ensure they are not standing in pools of water.

Some varieties grow upright like a small bush, while others creep across the ground or form ground-covering mats, which help to prevent soil erosion

The planting distance will depend on the variety, so refer to the label for more information. Mulch with compost, wood chips, or gravel.

Prune annually after flowering to prevent the plant from becoming straggly. Propagate by cuttings or layering; creeping thymes can also be propagated by division.

Harvest the leaves year-round. Snip off shoots and use fresh or dried. As well as being a wonderful culinary herb, it has antiseptic properties that make it a beneficial medicinal plant, and also for home care preparations.

EDIBLE FLOWERS

Flowers have been used throughout history, across the world, to add flavor to dishes, as well as for medicinal and ceremonial reasons. They also make you feel good just by looking at them! Flowers delight the senses visually and with their scent, flavor, and color.

Edible flowers are a fantastic way to enhance both savory and sweet foods, cordials, preserves, and teas. A simple salad can be made into a sensory feast by the addition of some viola, calendula, or nasturtium flowers.

Edible flowers also have a range of health benefits, including antioxidant properties, phytochemicals and vitamins that help to promote a healthy immune system. The flowers of herb plants often have the same medicinal properties as the more widely used leaves.

Growing flowers

Edible flowers are an exciting addition to the kitchen garden, with a wide range of culinary uses: in addition to garnishing and flavoring dishes, they can find a place in pickles and chutneys, jams, wines, jellies, infused cordials and alcohol, teas, tinctures, vinegars, flavored salts and sugars, infused oils, frozen in ice cubes, crystallized, stuffed and deep fried, and in butter. They are used to make herbal remedies, body products, salves, decorative crafts such as flower pounding, natural dyes, potpourri, and home care products.

Choosing the location

Some edible flowers enhance the flavor of neighboring plants, such as the traditional combination of basil with tomatoes. Some can help deter pests, such as marigolds to repel greenfly, blackfly, and mosquitos, while others such as brassica, fennel and dill flowers attract beneficial predators like wasps and ladybugs.

Many edible flowers make excellent additions to containers, and are ideal for urban courtyard and balcony gardens. With most having multiple uses, they make a small space more productive. Some, such as climbing varieties of nasturtiums and zucchini, will grow up trellises, increasing the growing space with vertical gardening.

Growing and harvesting

Woody perennial edibles such as lavender, roses, and fruit trees are best bought as established plants because they take a long time to grow from seed or cuttings. Most edible flowers, however, can be raised from seed.

Sow edible flowers in trays in the greenhouse in early spring. Check the variety for frost-hardiness; it will say on the packet. Violas, for example, are frost-hardy and, once established, will flower throughout the winter, surviving icy temperatures, whereas nasturtiums are killed by frost, so should be started later on for planting after the last frost date in your area.

Although they can all be direct-sown, starting under cover and planting later helps to protect them from being eaten, and also enables you to start several weeks before they would germinate outside, increasing productivity during the growing season.

The main sowing time for these tasty plants is from mid-spring onward. Allow two to three seeds per cell for small seeds, thinning out to two seedlings once they have germinated, and one to two seeds per cell for larger seeds, thinning out to one seedling.

When planting out, consider the eventual height and spread of the flowers. Small ones are ideal for popping into containers and in between vegetables and fruit, whereas sprawling plants such as nasturtium would swamp lettuces or spinach, though it would be fine grown alongside fruit bushes or trailing over the edge of pots. I don’t grow them with plants that need protecting by fine netting, because the bees and other insects can’t get to them. Plant tall sunflowers toward the back of beds, where their height will not shade neighboring plants.

Harvest edible flowers in the morning, when the dew has evaporated, and before the summer sun becomes too strong. If this is not possible—during a period of relentless rain, for example—harvest when you can and spread on a clean tea towel to dry off. Choose flowers that are at their peak of health. Regular picking can help to prolong productivity.

Always check the flowers for any insects and shake off passengers into the garden. Take care when picking borage flowers and others that are beloved by bees to ensure that you do not accidentally touch one foraging for nectar.

The benefits

Adding edible flowers to the garden increases biodiversity and maximizes productivity, not only by offering more harvests and culinary experiences, but also by attracting beneficial pollinators that make the garden more productive. Many are small plants, and can be incorporated into garden beds to create polycultures of vegetables, fruits, herbs, and flowers. If the winter is mild, it is possible to have edible flowers year-round. Calendulas (pot marigolds) can often survive hard frosts and in the hoop house, where violas will often overwinter too.

Growing edible flowers can provide extra income, supplying to local restaurants, bakeries, and specialty cake makers. Dried petals can be sold as tea mixes; fresh and dried, they are used as sustainable confetti for weddings and other celebrations. Or consider supplying to florists and craftspeople.

Choosing the flowers

I grow so many different kinds that it is difficult to choose, but these are my top eight edible flowers. I sow the annuals into small trays and plant when 2 inches tall. The scented geraniums are tender perennials and propagated by taking cuttings. I buy my roses as plants.

Many of the edible flowers listed here grow well both outside and undercover as companion plants, including viola and calendula, making them very easy to include in garden plans outside and also in the hoop house. Herbs, fruit, and vegetables often produce edible flowers too, including brassicas, alliums, and cherries, to add to the repertoire. If you already have a thriving plot, spend some time discovering which plants produce edible flowers.

Always make sure that the flowers are truly edible, and never eat one unless you are certain. Many garden flowers such as foxgloves and daffodils are toxic. People with allergies to pollen should not eat edible flowers.

Annual flowers

Borage

Borago officinalis

Position: sun
Spacing: 12 in.
Hardiness: tender

With blue, white, and occasionally pink flowers, this is an excellent wildlife plant much loved by bees. You can eat the leaves (which taste of cucumber) but they are very bristly. Instead, I prefer to use the leaves to add to homemade plant foods and the compost heap. The flowers taste mildly of cucumber. Pick by carefully removing the star-shaped flower when they have just fully opened. Use in salads, to decorate cakes, in cocktails, ice cubes, and to make a flower syrup.

Borage self-seeds incredibly well; once you have some, it will pop up everywhere each year and you are unlikely to need to sow any more. The seedlings are easy to identify and hoe off in areas where you don’t wish them to grow. Borage can withstand frosts for some time and will often overwinter in mild areas, making it an ideal early and late forage plant for wildlife.

Calendula

Calendula officinalis

Position: sun
Spacing: 8 in.
Hardiness: tender

Also known as pot marigold, calendula is easy to grow. The petals have a mildly tangy, slightly spicy citrus flavor. There are many varieties to choose from with a wide range of colorful petals in shades of yellow, orange, and red. Once established, calendula will self-seed, providing new plants the following year. It brings in beneficial predators and is a powerful healing herb as well as a tasty edible flower. Use in salads, as a garnish, to decorate cakes and to make herbal tea.

I add the petals to healing oils and vinegars; you can also use them as an edible dye for food. Calendula can often survive the whole winter outside.

Cornflower

Centaurea cyanus

Position: sun
Spacing: 4 in.
Hardiness: tender

Another flower that will self-seed and reward you with blooms every year, cornflowers come in a range of dazzling jewel colors, including purple, red, and the traditional cornflower blue. The flavor tastes like mild cloves, sweet and slightly spicy. If you grow different colors near to each other they will cross-pollinate, producing gorgeous multicolored flowers. An excellent wildlife flower and source of seeds for birds, cornflowers taste delicious. The dried petals are lovely stirred into winter rice dishes. Use in salads, to decorate cakes, as a garnish and in herbal teas.

Gem marigold

Tagetes tenuifolia ‘Gem’ series

Position: sun
Spacing: 8 in.
Hardiness: tender

This useful little plant not only tastes delicious, with a citrus flavor, but also reduces whitefly infestations in the greenhouse. Gem marigolds are not hardy so plant outdoors when the danger of frost has passed. Use the pretty flowers whole in your dishes, after removing them from their stems; regular picking extends the flowering time. Birds love the seeds, which are easy to save for the following year’s flowers. My favorites are ‘Lemon Gem’, ‘Orange Gem’, and ‘Firestar’. Add the flowers to salads and cooked dishes or as a garnish, and use dried to add color to meals in the winter.

Nasturtium

Tropaeolum species

Position: sun
Spacing: 12 in.
Hardiness: tender

One of the most versatile of the edible flowers, nasturtiums have spicy edible blooms, delicious peppery leaves, and edible stems (chop and add to stir-fries); use the green seeds to make “country capers” and pickles. Nasturtiums are not hardy (except in coastal and mild areas) so treat as other frost-sensitive plants. The choice of colors is extraordinary—too many to list here—so enjoy choosing your favorites from seed catalogs.

Nasturtiums mostly sprawl across the ground, making excellent ground cover. There are also dwarf varieties that are ideal for pots and hanging baskets, as well as climbing flowers that, with support, will grow over frames and up walls.

As well as adding to salads and sandwiches, the flowers are delicious stuffed with cream cheese or a mixture of rice (a bit like dolmades), or infuse in vodka for a spicy cocktail.

If you wish to taste the delicious nasturtium spiciness in winter, sprinkle seeds into a pot (just like for pea shoots) on the windowsill and harvest as a micro leaf. Careful cutting should result in crops over several weeks. You can also dry the leaves and flowers to use as a peppery spice in winter.

Scented geranium

Pelargonium species

Position: sun
Spacing: grow in pots 8–12 in. in diameter
Hardiness: tender

All scented geranium flowers and leaves are edible, and also impart special fragrances, which include orange, rose, and lemon scents. ‘Attar of Roses’ and ‘Ashby’ have a rose flavor; ‘Prince of Orange’ and ‘Lemon’ have sherbet-like citrus flavors; ‘Ardwick Cinnamon’ and ‘Fragrans’ taste spicy.

The foliage and flowers are lovely in home and body care recipes, in drinks and in baking. Infuse in cream to make ice cream and other cream-based desserts, and add to jams and jellies.

Scented geraniums are tender perennials, which means that they need protection from cold winter weather and are not frost-hardy. I grow them in pots so that they can spend the summer months outside, and come into the house during the cold months to overwinter on windowsills.

Rose

Rosa species

Position: sun
Spacing: 2–5 ft, depending on variety
Hardiness: hardy

All roses, including wild roses, have edible petals. The crucial thing is to make sure that they have not been sprayed, so do not use blooms from supermarkets or florists unless you know their provenance. For cooking and using in home and body care recipes, choose varieties known for their strong fragrance. The less fragrant ones are fine, and can add interesting color, but they will not have the sumptuous sweet, floral flavor of highly fragrant roses. Highly scented varieties include ‘Gertrude Jekyll’ (delicious old rose fragrance), ‘Elizabeth’ (sweet, lemon sherbet), and ‘Bathsheba’ (myrrh and honey).

Add fresh and dried (they retain their flavor when dry) to many sweet and savory dishes, and to make infused teas, cordials, and spirits. Rose petals are tasty in infused butters, can be candied and crystallized and used in jams and jellies. Dried rose petals can be included in spice blends such as rose petal masala and ras el hanout.

Viola

Viola species

Position: sun
Spacing: 10 in.
Hardiness: hardy

Violas are remarkably hardy little plants, especially the wild heartsease (*V. tricolor*), which can survive outside all winter long, freezing and then defrosting. The pretty little flower heads, which taste a bit like lettuce, are available in a rainbow selection of colors (‘Brush Strokes’, ‘Johnny Jump Up’, ‘Tiger Eye’).

Violas keep their color and shape well, making them excellent for drying and using to decorate cakes and sweet and savory dishes year-round.

The whole head can be used in cooking, or remove the petals to sprinkle on meals. Like violets, they make attractive sugared cake decorations. Violas are ideal for flower pounding and pressing.

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Part Three

Using Your Harvests

HOMEGROWN PANTRY

One of the many benefits of growing your own food is making meals fresh from the garden. It is a joy to step out into the plot and see what is ready for picking. Many of the meals I make are decided when I gather a trug full of homegrown produce, or see what is stored in the kitchen from earlier harvests.

Throughout the year there are times of gluts and abundance—during late summer I seem to be bringing in a basket of fresh tomatoes every day, and then all the squash ripen at once. There are also times when some plants are producing for a fairly short season, such as wild garlic, asparagus, or Japanese wineberries. Or when usually expensive produce is for sale cheaply in farmers markets or supermarkets.

Knowing how to store and preserve homegrown, foraged, and store-bought produce extends the pleasure of these wonderful flavors throughout the year. Having a well-stocked pantry looks beautiful and gives a great sense of comfort, especially as the weather turns cold and the garden less productive.

PURE BREWED
GINGER BEER

A seasonal kitchen

Growing your own food opens up so many possibilities, including the pleasure of eating seasonally. Before the globalization of food, most people would have eaten this way, with the addition of stored foods for the long winter months. Having fresh tomatoes or oranges in the depths of winter is a relatively new concept, except for the very wealthy with access to hothouses.

Few of us have the space to grow all of our food; nor is it practical for most to eat completely seasonally, but trying to eat some food in this way has many benefits.

The benefits

Homegrown and homemade food tastes better. It is more nutritious because fruit and vegetables start to lose nutrients as soon as they are harvested, including antioxidants such as vitamin C. Eating in-season produce with shorter times between harvest and consumption is better for your health; it contains more vitamins, minerals, and phytonutrients, boosting the immune system and the gut microbiome.

Seasonal eating is also better for the environment, having a much lighter ecological footprint because the produce hasn't traveled long distances. There is less reliance on using artificially heated and lighted greenhouses, and it is more likely to have less packaging. Seasonal food is usually cheaper, benefiting the budget. It's an excellent way of supporting the local community, in particular local growers and farmers markets.

Connecting with the seasons and cycles of nature through food, whether homegrown or foraged, is an enriching way of experiencing the year. There's the anticipation of the first summer raspberry bursting with juiciness, the sweetness of a parsnip after the first winter frosts, or the first small, sweet, earthy beets in the spring.

Eating this way can help to provide just what your body needs: dense vegetables for soups and stews in the winter, salads and cooling foods in the summer. Summer vegetables tend to contain more water and are therefore more hydrating. Interestingly, stone fruit and tomatoes have high levels of

carotenoids, which help to protect the body against sun damage (it is still a good idea to use appropriate sun protection).

This approach may be considered restricted, especially when supermarket shelves are laden year-round with a rainbow of fruit and vegetables, but in many ways it offers a more diverse diet, introducing new-to-us varieties of edibles. It is also more creative and opens up the opportunity to learn new recipes and skills.

Availability

For some people seasonal eating may not be possible or the best solution: for example, if you have specific dietary requirements or live in a “food desert” with limited access to fresh produce because there are very few or no grocery stores. Community gardens can help to a degree in food deserts, increasing the availability of fresh produce. In 2012 I visited some very productive American urban gardens created entirely on concrete in San Francisco, and there are many similar projects in the UK. However, eliminating food deserts and increasing the availability of affordable, fresh produce in these urban areas require investment.

During the cold months the choice of seasonal food can be limited. But storing and preserving the harvest means that it’s possible to enjoy the tastes of summer in the depths of winter. You can also preserve ingredients from farmers markets or supermarkets, which can be a wonderful source of fruit and vegetables at low prices.

How to plan a seasonal kitchen

Making the most of seasonal produce, whether for eating fresh or preserving for leaner months, needs some simple planning. First of all, learn what is in season in your garden and local area each month. If you’re new to growing, good sources of this information are local community gardens and produce markets.

Record this in the way that works best for you. It could be adding a list of what’s in season to your calendar, or keeping a list on the fridge door. Prepare for seasonal gluts in advance by making sure there is as much

storage space as possible in your home for everything that you wish to preserve. I usually find I have to be creative, storing produce in baskets on top of living room bookshelves and jars under the beds!

During peak periods of productivity, such as late summer and early fall, when it seems that just about everything is ready to be picked, it can be helpful to freeze produce such as soft fruit and tomatoes in bags labeled with the weight for ease of use later.

When to harvest

As a general rule, harvest leaves in the early morning. Pick herbs and edible flowers when the dew has dried. However, roots and fruits can be harvested at any time of day.

As noted in the last chapter, if the weather is very wet and there is no opportunity to gather herbs and edible flowers when they are dry, harvest when you can and gently pat dry with clean tea towels.

Preserving the harvest

With access to purpose-built storage a dream for most, think of your whole home as a pantry. Store jars and bottles under beds and on closet shelves. A dark, cool basement or crawlspace, or even a frost-free shed, is excellent for root vegetables and apples, as well as jars of preserves. Put root vegetables like potatoes, carrots, beets, and rutabagas in thick brown paper sacks or crates with the soil still on and any leaves twisted off. Washing makes them go soft and wrinkled faster, as does leaving on leaves. Strings of onions and garlic, and bunches of drying herbs, look lovely hanging from kitchen hooks. Squash keeps well at room temperature on the tops of cupboards and shelves.

Drying and dehydrating

Drying food removes moisture so that it will store for a long time. The three methods I use are drying on the plant, air-drying and an electric dehydrator.

Peas and beans for storage, and herbs grown for their seed, will dry on the plants unless it is a very wet fall. The pods are ready when they turn dry and rattle. Spread out in a dry, airy place for a few days and check for any sign of insect infestation.

Air-drying can be as simple as hanging bunches of herbs in an airy place out of direct sun until brittle. Drying racks are useful for loose materials such as herbs and edible flowers. Woven trays (such as bamboo steamers) or plastic vegetable crates lined with a clean cloth work well. A ventilated cupboard or other dry, warm, airy location is ideal.

In a damp climate like the UK, an electric dehydrator is a boon. These use a fan to extract moisture and come in sizes ranging from small three- to five-tier machines to large ten-tier dehydrators. Multi-cookers and air fryer ovens usually have a dehydrator setting and work for smaller quantities. Dehydrating fruit and tomatoes especially intensifies their flavor. Dehydrators are also excellent for making fruit leather, a chewy snack from pureed fruit.

Store completely dry produce in clean, dry jars in a cool, dark place. Usually, it will keep for a year.

Freezing

Freezing produce is quick and simple. I often do this during fall, ready to be turned into preserves in winter when I’m less busy. *Always* label with the name and weight! While produce may be obvious when it goes into the freezer, once frozen it is often unidentifiable.

To reduce plastic use, freeze in stainless steel or freezer-proof glass containers. Most preserving jars are freezer proof (check first). Plastic-free freezer bag alternatives include reusable silicone bags and compostable and biodegradable single-use bags. Beeswax wraps are also suitable. Make sure the produce is securely wrapped to prevent freezer burn.

Most raw vegetables need to be blanched before freezing. Peel if necessary and cut into the desired size. Meanwhile, bring a pan of salted water to a boil and fill a large bowl with cold water, adding a few ice cubes to make it very cold.

Put the prepared vegetables into the boiling water for 2 minutes. Drain through a colander and then plunge into the iced water. Once cold, drain and put in freezer bags or containers.

Roasting vegetables such as squash and tomatoes before freezing brings out the flavor and means they are ready to add to soups, stews and other meals.

If you don’t want soft fruit such as strawberries, raspberries and blueberries to stick together when frozen, freeze them separated on trays before storing.

Freeze herbs in an ice cube tray. Place chopped herbs in the tray until mostly full and top with olive oil or water. Put in the freezer for 24 hours, then pop out into another container and return to the freezer.

Dried apple rings

You will need:

— ½ cup fresh lemon juice
— 1 quart water
— apples
— knife or apple corer
— skewers, or some kind of thin pole

1 Combine the lemon juice with the water.

2 Core and cut apples into ½-inch slices. Peel if you wish.

3 Soak in the lemon juice and water mixture for 30 minutes.

4 Next, thread the slices onto a skewer, 1¼ inches apart, so that they dry without touching.

5 Hang up in a dry place (not above a stove or anywhere steamy). Depending on the room's humidity and temperature, they should take 3 to 5 days to dry.

Canning

Canning is a method of preserving food in glass jars by submerging the whole jar, with the lid on, in hot water for specific periods of time. It is a brilliant way to preserve many kinds of homegrown foods.

How to do it

The two most popular methods of canning are water bath and pressure canning. Choosing which method to use for your produce is a huge topic and would fill a whole book. See here for recommended information about canning.

— **Water bath canning** is used for high-acid foods. Foods with lower acidity will require an extra acid (such as lemon juice or citric acid) in order to preserve safely.

— **Pressure canning** will preserve the same foods as water bath canning, plus low-acid foods and also meat, fish, and dairy. Some pressure and water bath canners are stovetop and others are electric.

For both methods it is crucial to always keep everything extremely clean, and to use tested recipes (see here) to prevent food poisoning, including botulism.

Both methods require specific preserving jars: you can't just use a clean jam jar. I like jars from Weck, Ball, and Kilner.

I have an electric water bath canner, so that I can set the time and temperature, load it up with the jars, and then go off and do something else. Some multi-cookers have a water bath canning setting that is ideal for smaller quantities, but stovetop water bath canners are easy to make.

How to make and use a water bath canner

You will need:

— a large pot with a fitted lid, such as a stock pot, which is deep enough to submerge the jars a couple of inches below the water level
— a circular rack that fits in the bottom of your pan, or several metal canning lid rings side by side; alternatively, use a folded tea towel
— oven gloves
— ladle
— spoon
— funnel
— preserving jars
— tongs to handle the jars—preserving tongs are best if you have them; if not, cover the “grabbing” ends of your kitchen tongs with thick rubber bands to increase the grip

1 Place the metal rings, rack, or folded tea towel on the bottom of the pan. This is to prevent the glass jars from touching the bottom, which can lead to cracking.

2 Fill with water and bring to a boil.

3 Using the tongs, carefully add the sealed jars filled with preserves.

4 Process the jars at a rolling boil for the time specified in the recipe.

5 Remove the jars with the tongs, and place on a wooden cutting board to cool.

6 Confirm the jars are sealed properly before storing.

Pickles, chutneys & jams

Storing produce such as pickles, chutneys, and jams is one of the easiest ways to preserve the harvest, and there is a wealth of amazing recipes to try. See here for recipe book recommendations.

Equipment for making pickles, chutneys, and jams

You will need:

— preserving pan (maslin pan): a heavy bottomed, large pan, usually stainless steel
— wooden spoons and spatulas
— slotted spoon for removing any stones or scum
— canning funnel for getting the preserve into the jars without pouring it everywhere
— jelly bag for straining fruit to make jellies and other clear preserves
— saucers for checking the set
— jam jars with lids, wax discs, labels
— jar tongs
— jam thermometer: not completely necessary but really useful

Pickling

Pickling is a method of preserving, usually by immersing in vinegar, sugar, and spices. It is quick to do and tastes fantastic. Many pickles were once made by adding malt vinegar, but the flavor can be too overwhelming. Lighter vinegars include cider, rice wine, white wine, and balsamic. Pickling works well for beets, carrots, Florence fennel, onions, radishes, rhubarb, sweet peppers, and tomatoes.

It is important for preservation to always follow the recipe’s suggested amount of vinegar and acidity. Pickling preserves the ingredients almost immediately, and lasts for a long time. Some recipes require a storage period for flavors to fully develop, whereas others can be consumed within a day or so.

Many vegetables benefit from brining before pickling, which makes them crunchier. Dry salting is a method by which you sprinkle salt over the vegetables, place a plate on top and then something heavy such as a full jar of jam. Liquid brining is where you mix salt with water and soak the

vegetables for a day or two. The recipes will say whether brining is advised and suggest ratios of salt to water.

After consuming the pickles, use the pickling liquid in vinaigrettes and other sauces.

If your vinegars are homemade, it is essential to check their pH so that you are certain they are acidic enough to preserve without causing food poisoning. Check the pH using an electric pH meter or test strips.

Quick fridge pickle

I regularly make a quick fridge pickle using seasonal vegetables. Ready within 24 hours, it keeps in the fridge for a week or so. I have eaten and enjoyed it after a few hours, too. This is a method of flavoring rather than long-term preserving. You can include any fruit and vegetable that works well for chutneys and pickles here, including apples, carrots, cucumbers, radishes, turnips, and zucchini, with seasonal herbs and edible flowers.

You will need:

— 2 × 16 oz (or 1 × 32 oz) preserving jars
— chopped vegetables, herbs, and edible flowers
— spices (optional)
— 8½ cups vinegar
— 8½ cups water
— 1½ tsp sea salt
— 1 tbsp granulated sugar (optional)

1 Loosely fill a clean preserving jar with chopped vegetables, herbs, and edible flowers. Sprinkle in spices if desired.

2 Make a pickling liquid using the vinegar, water, sea salt, and granulated sugar (optional).

3 Whisk together and pour over the vegetables to cover by about 1 inch. You may need to make twice as much, depending on the size of the jar. Replace the lid and put in the fridge for 24 hours before eating to let the flavors develop.

Chutneys and relishes

Chutneys and relishes are a combination of fruit and vegetables cooked with vinegar, sugar, and spices. They usually need at least a month for the flavors to develop before eating, and will store for a year or more. Ingredients for a perfect chutney or relish include apples, beets, carrots, gooseberries, onions, rhubarb, runner beans, tomatoes, and zucchini.

They can be used for more than just serving on the side of a meal or spreading in a sandwich. Add to sauces, stews, and curries, or as a glaze on meat and vegetables.

You can generally be flexible with the ingredients, tweaking the quantities to make the most of surplus. Chutneys take some time to make, usually requiring several hours of cooking at a low temperature to allow the vinegar to evaporate and the ingredients to cook down. A stainless steel preserving pan (maslin pan) is ideal.

Chutney

You will need:

— 3 x 12 oz jars
— 10½ oz cooking apples, diced
— 10½ oz onions, chopped
— 14 oz seasonal fruit and vegetables, diced
— 6¾ cups vinegar (cider, white wine or red wine)
— 5¼ oz dried fruit, chopped
— 1 cup sugar (dark or light brown is best)
— 1 tsp fresh ginger, finely chopped
— 1 tsp fresh chili, finely chopped
— 2 cloves garlic, finely chopped
— 1 tsp ground cinnamon
— 1 tsp ground turmeric
— 1 tsp yellow mustard seeds
— 2 tsp sea salt

1 Dice the fresh fruit and vegetables so the pieces are around ½ inch. Place all of the ingredients into a preserving pan with a heavy bottom. Heat slowly, constantly stirring so that the sugar dissolves, then bring to a boil.

2 Reduce the heat and simmer for around 2 hours, stirring occasionally, until there is no liquid left when a wooden spoon is dragged through the pan. You should be able to see the base. The chutney will be thick with a glossy sheen.

3 While the chutney is cooking, prepare the jars. Shortly before it is ready, place the lids in boiling water and the jars in a 285°F oven to sterilize. The jars need to be hot when the chutney is poured in. The actual time needed will depend on the ingredients; those with higher water content such as tomatoes need more cooking time.

4 Carefully spoon the chutney into the hot jars, and seal with the lids. Leave to cool. You should hear the lids pop as the chutney cools down

and the jars seal.

Chutney contains vinegar and sugar as preservatives and is not usually water bath canned. If you wish to do so, water bath for about 15 minutes.

Jams, jellies, curds, and other preserves

Homemade jam and other sugar-based preserves are in another flavor dimension to store-bought ones. Each jewelled jar of homemade jam is a flavor masterpiece!

All of these recipes require plenty of sugar, which acts as a preservative and holds the flavor of the ingredients. Jam is not just for fruit; root

vegetables also make tasty jams and other sugar-based preserves.

Some recipes will require pectin to make the preserve set—it depends on the ingredients—but mostly they provide enough on their own. You can make your own pectin from windfall apples and crab apples, or buy packets of dried pectin.

Jams and preserves both contain the fruit, sometimes mashed up, sometimes with the fruit mostly intact. Marmalades are similar to jams, with small pieces of fruit (often citrus) suspended in a jelly. Jellies are clear preserves where the fruit has been strained through a jelly bag.

To check the set of the preserves, place saucers in the fridge to chill. When you think the preserve looks ready, drop a teaspoon of the preserve onto the cold saucer and leave to cool for a moment. Push with your finger. If it is thick and wrinkles when pushed, it is ready. If it is still runny, cook a little longer.

Fruit curds are made with eggs, butter, sugar, and fruit. These have a short life of about 6 weeks unless preserved in a canner. Apples, blackberries, gooseberries, peaches, quinces, rhubarb, raspberries, and strawberries will all make delicious fruit curd. Vegan fruit curds use non-dairy cream and arrowroot. They normally have a shelf life of a week or two.

Blackcurrant jam

Blackcurrant jam is one of my favorites, and is also ideal if you are new to jam making because the fruit is high in pectin, which means it sets really well. Some fruits are low in pectin and need either the addition of powdered pectin or other high-pectin ingredients. See here for recommended preserving books with jam recipes for other fruits.

This fills about six or seven 12-ounce jars. It makes a fairly tart jam, bringing out the full flavor of the blackcurrants. If you prefer a sweeter jam, add another pound of sugar. The jam will keep for a year.

You will need:

— 6–7 x 12 oz jars
— 2¼ lb blackcurrants
— 6 cups granulated or superfine sugar
— 3 cups water

1 Wash and sterilize the jam jars. Put a saucer in the fridge to chill to check the set.

2 Wash the blackcurrants and check for any leaves or twigs.

3 Place the fruit in a preserving pan with the water and bring to a boil. Reduce the heat and simmer over a low heat for 15 minutes until the blackcurrants are soft. Add the sugar and stir to dissolve.

4 Bring to a boil and cook on a full rolling boil for five to 10 minutes. Remove from the heat and check for the setting point. If you're using a sugar thermometer, it is 220°F. If it is not ready, boil again for a few more minutes, then check again. Repeat until the setting point has been reached.

5 When it is ready, spoon through a canning funnel into the prepared hot jars and replace the lids. Tighten the lids and leave to cool.

Condiments, fermented foods & infusions

Making your own condiments, fermented foods, and infusions is a revelation, much easier than you think.

Ketchups and sauces

A ketchup is a condiment, usually with a sweet and sour flavor, that is used as a dipping sauce, marinade, base for dressings, and spread. It is sometimes referred to as “catsup.” Nowadays we mostly think of tomato ketchup, but in the UK it was traditionally made with mushrooms. In addition to the main vegetable or fruit, it contains vinegar, sugar, salt, and spices.

Making your own ketchup opens up a whole range of flavors using seasonal ingredients beyond the ubiquitous tomato. Fruit ketchups include banana, blackberry, peach, pear, plum, and rhubarb. Vegetable-based ketchups include beet, carrot, pumpkin, roasted red pepper, and tomatillo.

Spiced rhubarb and beet ketchup

This brightly colored ketchup uses two late spring harvests: rhubarb and beet. The sugar chosen will vary the flavor: for a lighter ketchup, use superfine or granulated sugar, and soft brown sugar for a deeper one. It makes about 16 ounces.

You will need:

— 1 lb rhubarb, cut into 1¼ in. pieces
— 9 oz beets, diced into ½ in. pieces
— 1 large onion, finely chopped
— 1¼ cups sugar
— ⅔ cup vinegar (cider, white wine, or red wine)
— 1 clove garlic
— 1¼ in. fresh ginger root, finely diced or grated
— 1 star anise
— 2 juniper berries
— 2 cloves
— ½ tsp black peppercorns
— salt to taste
— oil for cooking the onion (sunflower or other light vegetable oil)
— 16 oz glass preserving jar or several smaller ones

1 Wash the rhubarb and scrub the beets. Grind the star anise, cloves, juniper, and black pepper with a mortar and pestle or in a food processor until they are a fine powder.

2 Cook the beets whole, either by wrapping in foil and roasting at 350°F, or boiling in salted water, for 1½ to 2 hours until soft. Leave to cool.

3 Place the onions, garlic, and ginger in a large pan with a little oil, and cook over a low heat until the onions are clear, around 20 minutes.

4 Put the jars in the oven at 285°F to sterilize. Boil the lids for 10 minutes and place on a clean tea towel to dry.

5 Add the rhubarb to the pan, stirring often to prevent it from sticking as it breaks down. When the rhubarb is soft, add the vinegar and sugar and stir. Add the spice mixture and bring to a boil. Simmer for 10 minutes.

6 Meanwhile peel the beets and chop into small pieces. Place into a food processor. Carefully add the hot rhubarb mixture to the food processor; replace the lid and puree until smooth.

7 Return the mixture to the pan and simmer over a low heat until it is thick but still pourable. Carefully spoon the hot mixture through a funnel into the jar(s) until the ketchup is just below the top of the jar. Replace the lid and fasten tightly.

To preserve long-term, follow the water bath canning technique. Otherwise, the ketchup will keep in the fridge for about 2 months.

Fermenting

Fermenting is a process by which microorganisms are used to preserve food by encouraging beneficial bacteria. There are many different kinds of fermentation methods, including making bread and wine, as well as fermenting vegetables for preserves such as sauerkraut and kimchi.

The taste of salty and sour fermented vegetables is delicious. They contain the fifth flavor—umami—and are incredibly beneficial to gut health.

To make most fermented foods, fermenting jars with air locks are very helpful to prevent explosions. Pickling weights, often made of glass, hold the contents below the brine during the process. Glass jar lids or clean flat beach pebbles work well here too.

It is important to carefully follow a tested recipe. See here for some suggested recipe books.

Sauerkraut

One of the best-known fermented foods, sauerkraut is incredibly good for gut health and is surprisingly easy to make. I use a traditional pottery sauerkraut jar, which comes with weights and a flat-bottomed wooden pestle for pounding, but any large preserving jar works well.

The key to making sauerkraut is to weigh the prepared cabbage, after trimming and shredding, and include 2 percent of that weight in salt. So if your prepared cabbage weighs 2 pounds, you will need 18 grams of salt, 1½ pounds will need 14 grams of salt, and so on.

There are many variations of spices used in sauerkraut, including bay leaves, caraway, chilies, coriander, cumin, garlic, ginger, juniper berries, and peppercorns. These additions do not affect the salt/cabbage ratio.

Sauerkraut is often made with white cabbage, but works well with green and red cabbage, and other vegetables including beets, carrots, celery, parsnips, radishes, and turnips.

To prepare the vegetables, either shred with a sharp knife or use a food processor.

You will need:

— 2 lb cabbage, weighed after cutting out the core and shredding
— 18 g sea salt
— 1 tsp caraway seeds and 1 tsp black peppercorns, or spice seasoning combination of your choice
— a large strong jar, with a lid, with a capacity of 1–1½ qt; if using a glass jar, have one with a clip-top lid or a fermentation lid

1 Place the shredded cabbage in a large bowl and add the sea salt. Massage the salt into the cabbage for about 5 minutes, then leave for 30 minutes. The cabbage will have started to become watery.

2 Mix through the spices, then place the mixture into the jar, one handful at a time. After each handful, pound with a wooden pestle or wooden spoon, until the jar contains all of the cabbage mixture and liquid.

3 Place a fermenting weight, pickle pebble or folded cabbage leaf on top to keep the cabbage mixture submerged in the liquid, then replace the lid. It is important that the cabbage remains submerged under the liquid. Every day, loosen the lid to let any gases escape (unless using a fermenting lid).

4 Put in a cool but not cold place, out of direct sunlight. Taste after 4 days and thereafter every 2 days until it is just how you want it. Usually 10 to 14 days is about right, but some people prefer the flavor after a month or so. Then, store in a cool place to stop fermentation.

   Sauerkraut keeps for around 6 months. If it looks discolored, smells off or doesn't taste acidic, discard it.

Preserving food in oil, vinegar, sugar and salt

Although food has been safely preserved in oil for centuries, it carries a risk of botulism and so I only use oil as a short-term preservative. Eggplant, garlic, herbs, sweet peppers, and tomatoes can be preserved for a short period in this way. Food has been preserved with oil, vinegar, sugar, and salt for a very long time. Before refrigeration, these methods were crucial for preventing fresh produce from going moldy, and filling store cupboards, in readiness for the long winter months. The skills were vital for survival when fresh food was scarce.

Although (thankfully!) not crucial for our survival these days, these skills help to increase our self-sufficiency and self-reliance. Using different techniques to preserve the harvest saves money, and also offers the opportunity to explore many different flavors from international cuisines. One of the main reasons I love making preserves is that one can learn so many new skills, and constantly be delighted by new flavor combinations.

Roasted tomatoes stored in oil

This gorgeous recipe makes the most of summer tomato surplus, creating a jar of beautiful slow-roasted tomatoes and a richly flavored oil. Use in sauces, sandwiches, on top of crostini, in salads, and soups.

Ingredients

— 2 lb tomatoes
— 2 cups extra virgin olive oil
— 8–12 cloves garlic, peeled
— a few sprigs of rosemary, thyme, and oregano
— sea salt and pepper

1 Preheat the oven to 225°F.

2 Remove the stalks from the tomatoes and cut in half. If you're using cherry tomatoes, just remove the stalks. Place in an ovenproof dish and arrange the garlic cloves and herbs around the tomatoes.

3 Season with salt and pepper, and drizzle over the oil. Place in the oven for 3 hours or so, until the tomatoes are soft. Remove from the oven and leave to cool. When cool, pour the tomatoes, herbs, and oil into clean glass jars. Store in the fridge for up to 2 weeks, making sure that the tomatoes are always submerged in the oil. Alternatively, freeze to store for longer (up to 6 months).

Herb oil

Herb oils add fantastic flavor to all kinds of meals, and are an excellent way of using up herbs that are starting to become limp. Enjoy exploring different combinations with your choice of seasonal herbs and various oils.

This recipe uses soft herbs that can be prepared quickly; include both leaves and soft stems. To make herb oil with "woody" herbs, such as rosemary or thyme, see here.

Recommended herbs include basil, chives, cilantro, dill, mint, oregano, parsley, or tarragon; for the oil, try avocado, grapeseed, olive, peanut, rapeseed, or sunflower.

You will need:

— ½ lb herbs
— 1 cup oil

1 Prepare an ice bath by filling a bowl with water and ice.

2 Bring a pan of water to a boil, then add the herbs. Blanche for about 15 seconds, remove with a fine strainer or slotted spoon, drain, and plunge in the ice bath. Once cool, gently squeeze the herbs to remove as much water as possible.

3 Place the herbs in a food processor and pour over the oil. Process on high speed until the herbs are chopped finely. Alternatively, use a mortar and pestle.

4 Place a strainer lined with cheesecloth over a bowl and pour in the herb puree, scraping the sides of the blender to get all of it into the strainer. Leave for a few hours until the oil has filtered through. The solid herb mixture can be used in soup, sauces, and pesto, or freeze in an ice cube tray to enjoy at a later date.

5 Pour the herb oil into a clean lidded jar and keep refrigerated. Bring up to room temperature before using.

This oil will last for a week in the fridge; to store longer, pour into an ice cube tray and freeze.

Herb-infused vinegar

Vinegars infused with herbs, edible flowers, and fruit are easy to make and last for a long time, as the vinegar is a natural preservative. I always use lighter vinegars for infusing: apple cider, balsamic, red wine, rice wine, or white wine.

You'll need a large, clean fermenting jar with a vinegar-proof lid lined with a BPA-free covering, vinegar and your choice of ingredients: herbs, spices, fruit, garlic.

You can use any seasonal herbs to make this fragrant vinegar, such as basil, lemon verbena, rosemary, or thyme.

You will need:

— 3½ oz herbs
— 6¾ cups vinegar

1 Rinse and dry the herbs by patting with clean tea towels.

2 Place the ingredients in the jar and fill with vinegar. Put in a cool place out of direct sunlight for 2 weeks to infuse.

3 Strain and pour into a clean, labeled bottle.

Infused salt

Infused salt is easy to make, with the ingredients only limited by your imagination or pantry. Some suggested flavors: basil, chili, and lime zest, curry blend, dried citrus zest, sage and thyme, a vanilla pod, and cinnamon.

You will need:

— ⅓ cup sea salt
— 2 tsp dried herbs or 4 tsp chopped fresh herbs, spices, or dried garlic, ground if needed

Dried herbs

Mix your chosen seasonings with the salt and pour into a labeled jar.

Fresh herbs

Mix the seasonings with the salt. Spread over a baking sheet and dry in a low oven (285°F) for about 30 minutes, mixing every now and then. Once the herbs are completely dried out, remove from the oven and leave to cool. Then store in a jar.

Infused pepper

This is made in the same way as infused salt. You can either use ground pepper or grind your own. My pepper grinder has several settings, which enables me to make a coarser pepper than the usually finely ground peppers found in stores. One of my favorite blends is this garlic pepper.

You will need:

— 1 cup ground black pepper
— 4 tsp garlic powder
— 2 tsp onion powder
— 2 tsp dried parsley

Mix and store in a jar.

Infused sugar

Infused sugar takes a little time, usually up to a month, but is easy to make. It can flavor baking, savory meals, drinks and more. Any kind of sugar is suitable. Suggested flavorings include: allspice, cardamom, cinnamon, cloves and nutmeg; elderflower blossom; dried ginger slices; ground coffee beans; lavender flowers; lemon verbena.

You will need:

— 1½ cups sugar
— 4 or 5 tsp of your desired flavorings, ground

Mix and store in a jar.

Fruit-infused vinegar

Use any soft fruit such as blackberries, raspberries, or strawberries to make this amazing vinegar. Balsamic and red wine vinegar both work well. This is delicious in sweet and savory dishes—it's even good drizzled over ice cream.

You will need:

— 1 lb soft fruit
— 17 oz vinegar
— ⅔ cup granulated sugar

1 Place the soft fruit in a preserving jar and lightly mash with a spoon.

2 Pour over the vinegar, replace the lid, leave to infuse for 3 days, then strain through a strainer lined with cheesecloth.

3 Pour into a pan and add the granulated sugar. Bring to a boil, reduce the heat and simmer for 10 minutes. Leave to cool.

4 Pour into clean, sterilized jars or bottles and label. Store out of direct sunlight.

Cordials & country wines

Virtually all homegrown fruits will make a lovely cordial—they're very simple to make and are also delicious with sparkling water or as an addition to cocktails. I have been making country wines since I discovered an old winemaking book in a charity shop. Filled with traditional recipes handed down through generations, it sent me on a journey of discovery and experimentation using homegrown and foraged ingredients.

Cordials

Cordials are made by simmering fruit in a little water in a large pan. When cool, strain through a jelly bag and transfer to a clean pan. Add the recommended amount of sugar (it varies according to the ingredients), bring to a boil and stir until the sugar has dissolved. Simmer for 5 to 10 minutes and pour into hot sterilized bottles. Seal and cool. See here for resources with more cordial recipes. Low-sugar and sugar-free cordials can be preserved using a water bath canner.

Rhubarb cordial

This pale pink cordial is an excellent way of using up a rhubarb surplus. I like to vary the additional ingredients, making some with ginger and some with liquorice-flavored star anise. If you prefer, you can leave both spices out.

This recipe requires a large lidded pan, a large bowl, and a large jelly bag.

You will need:

— 6½ lb rhubarb stems, chopped into 1¼ in. pieces
— 2 lemons
— 8 star anise or 1¼ in. fresh ginger root, sliced
— 6 cups granulated sugar (plus more if needed)
— water

1 Zest the lemons. Squeeze the juice and reserve.

2 Place the chopped rhubarb in a large lidded pan with the lemon zest and star anise (or ginger). Pour over enough water to barely cover the rhubarb (around 6 cups), replace the lid, and bring to a boil. Reduce the heat and simmer until the rhubarb is soft and mushy. Leave to cool for at least an hour.

3 Place the large jelly bag over a large bowl, so that all of the liquid will drip into the bowl. Pour the contents of the pan into the jelly bag and leave overnight.

4 Discard the rhubarb mush into the compost heap.

5 Measure the liquid in the bowl. Into a pan, add 4½ cups sugar and ⅓ cup lemon juice per quart of rhubarb liquid. Simmer while stirring, until the sugar is dissolved.

6 Pour into sterilized bottles.

7 Store in the fridge (keeps for 2 months) or water bath can to preserve for longer. The cordial freezes well too (use freezer-safe containers).

Country wines

Making country wines is an exciting way to save money and transform surplus produce—whether your own or from the market—into delicious brews. It offers the opportunity to discover different flavors, including wines made from wild flowers, leaves, and unusual roots.

Basic wine-making equipment

I have obtained almost all of my wine-making equipment for free or very little money by asking around and letting people know that I'm interested. Recently, someone having a clear out contacted me and offered fifteen free carboys. Online specialty retailers sell a wide range of wine-making equipment, including corks and yeast, and there are specialist websites too.

You will need:

— fermentation jars: at least two 1 gallon glass carboys
— cork or rubber stopper and fermentation air locks: these fit onto the fermentation jar, excluding air, preventing contamination and enabling carbon dioxide to escape
— large food-grade container with a lid: brewing bucket, large jar or crock for preparing the must (the freshly crushed juice)
— large piece of cheesecloth to cover the bucket when preparing the must
— siphon: a tube used to transfer the wine from one container to another
— brushes: different sizes for cleaning carboys and wine bottles
— wine bottles: ask friends and neighbors for used bottles and clean well
— wine corks: always use new corks to seal the bottles
— bottle corker to get the corks inside the wine bottles; mine is a basic manual one
— straining bags: I use my jelly bags
— wine yeast for fermentation
— sterilizer for the bottles and fermentation buckets
— thermometer: I use my cooking thermometer
— measuring cups, bowls, pans, strainers, funnel, potato masher, spoons: use equipment already in the kitchen
— hydrometer: not really necessary but tells you the alcohol content of the wine

Raspberry wine

This summer fruit wine is easy to adapt for all summer soft fruits and also works with frozen fruit (including from supermarkets). You do not need to defrost. I often make it with a mix of different berries.

Ingredients

— 4½ qt boiling water
— 4½ lb raspberries
— 9 cups sugar
— 1 tsp wine yeast

1 Wash the fruit and pick over to remove any leaves or stems. Place in a large food-grade container, such as a fermenting bucket, and pour over the boiling water.

2 When the liquid is lukewarm, mash well with a potato masher or wooden spoon. Cover with the lid and leave for 4 days in a warm room, stirring daily.

3 Strain through a strainer lined with cheesecloth into a large container, and compost the fruit mush.

4 Pour the sugar into the fruit mixture and stir to dissolve. Add the wine yeast, stir to combine, and then pour into a carboy using a funnel. Insert an airlock and leave in a warm place to finish fermentation (when the liquid has stopped producing air bubbles).

5 Once fermentation has finished, leave in a cool place for 2 weeks, then siphon off into bottles; cork, label, and store. The time between storing and drinking varies according to the ingredients (each recipe will offer guidance). Usually it is about a year, and the wine itself lasts for several years at least.

Mangelwurzel wine

Mangelwurzel is an old country name for mangolds (*Beta vulgaris* subsp. *vulgaris*), a large root vegetable with chard-like leaves usually grown as animal feed. I discovered this recipe in 1984 in an old wine book, but it was 1997 before I found seeds and was able to grow mangelwurzels to make the wine. Fortunately, several companies now sell seeds so you can try it for yourself (see here).

The roots are edible (use just like a rutabaga or beet) and the leaves are a good spinach substitute. It produces a delicious fragrant wine. Who wouldn't want to offer their guests a glass of mangelwurzel wine?

Ingredients

— 4 lb mangelwurzel roots washed and sliced into 1 in. pieces (no need to peel)
— 10¾ cups granulated sugar
— 4 in. piece of ginger root, sliced (optional)
— thinly peeled rind of two lemons and one orange, unwaxed
— juice of the lemons and orange
— 4½ qt water
— 1 tsp wine yeast

1 Place the mangelwurzel slices and citrus peels into a large pan with the water. Boil until the root is tender.

2 Meanwhile, pour the sugar into the brewing bucket and activate the yeast (if necessary, it will explain on the packet).

3 When the roots are soft, strain the contents of the pan onto the sugar and add the citrus juices. Stir until the sugar has dissolved and leave until lukewarm; now add the yeast. Stir, cover, and leave for 24 hours in a warm place.

4 Transfer into a sterilized fermentation jar, insert the airlock, and leave somewhere warm to ferment. This takes around 2 to 3 months. Then siphon off into bottles; cork, label, and store for at least a year before drinking.

THE NATURAL HOME

Caring for our homes and bodies using healthy, homemade recipes brings the garden indoors in a natural, fragrant, fun, and thrifty way.

I first started to research natural alternatives to home and body care products in my twenties when I realized that I was becoming increasingly allergic to the brands for sale in stores. Just walking along the domestic cleaning aisle can give me a headache or set off a sneezing fit due to the chemicals exuding from the products on the shelves, especially artificial fragrances. Getting information was quite difficult then; I mostly had to find traditional recipes in old books or gleaned from conversations with elderly neighbors. Once my children were born, I wanted to ensure that our home and any products used on their little bodies were as nontoxic as possible.

Fortunately, today not only are we more aware of the issues surrounding many of the commerical home and body care products, but we also have easy access to the extra ingredients used to make eco-friendly, natural alternatives, in addition to what we can grow and forage for ourselves.

Planning your natural home

Making our own natural home and body care products, using traditional wisdom and techniques handed down through generations, helps to reduce the impact of harmful chemicals in our homes and also on the environment. Choosing to make a natural home eliminates nasties including forever chemicals, VOCs (volatile organic compounds), and artificial fragrances which not only pollute the environment but are absorbed into our bodies through our skin and breath. It is also kinder to our home furnishings and equipment, being less corrosive, thus increasing their longevity.

The benefits

Becoming self-reliant and self-sufficient in this way is fun, creative, and empowering. Requiring only a few key extra store-bought ingredients such as salt, vinegar, and baking soda, as well as homegrown and foraged plants, homemade products save money. Store-bought cleaners are expensive and also wasteful, encouraging more single-use plastics. Even when the packaging can be recycled, they are adding to the problem of mountains of plastic that need to be collected and processed.

Reusing bottles and jars further reduces waste. There is no need to rush out and buy a load of fancy containers unless you really wish to. You might choose to buy glass spray and pump-action bottles to reduce microplastics, but these will last for many years.

We do not need multiple bottles of cleaners for each room in the house: these simple recipes work on almost every surface. Just one basket filled with homemade products will clean every room. Using old cloths reduces landfill waste too, or make your own knitted or crocheted cleaning cloths with string or cotton (see here).

Whether making body or home care products, you will know exactly what the ingredients are. For body care, in particular, everything we put on our skin is absorbed into our bodies, so it makes sense to keep the ingredients as safe and natural as possible. You can choose the fragrances you like the most, and control batch size to reduce waste.

You do not need a large growing space to make your own natural products. Many of these recipes require just a few key herbs, easy to grow on a windowsill or in a container on a balcony, so they are accessible to everyone. There are many excellent suppliers of basic ingredients, including dried herbs and flowers, to supplement homegrown produce, enabling you to make products out of season or incorporate things like rosehips that you might not be able to source in your plot.

The alchemy of making your own products gives a lot of pleasure. As well as being creative and fun, it produces practical items, many of which make great presents too.

Even though all of these recipes are non-toxic to the environment, do take care when using them near to pets and children and check for allergies to oils and other ingredients first.

Note: The information in this book is not intended as a guide to replace the advice of a medical professional. There is also the possibility of allergic or other adverse reactions from the use of any herbs, plants, foods, or essential oils mentioned. You should seek the advice of your doctor or other qualified health provider with any questions you may have, especially if you have a medical condition or are pregnant.

Laundry & cleaning

Whether you want to save some money, be more self-sufficient or avoid the harsh chemicals in cleaning products, making soapy solutions from plants is fun and completely waste-free.

Essential cleaning kit

Everything in this list can be secondhand: you don't need to buy new. I repurpose old containers, cleaning them out thoroughly and drying completely. (It's best not to repurpose containers that once contained something potentially harmful.)

You will need:

— glass spray bottles (or plastic)
— bottles or jars with pump-action lids
— strong glass jars with lids
— soft cleaning cloths (old T-shirts are excellent)
— dishcloths
— cheesecloth and clean dishtowels

I crochet my own dishcloths. They are one of those easy projects that can fit into a pocket and be taken anywhere I may have to spend some time sitting about. They're a great way to use up old cotton yarn and last for many years. (See here for some pattern ideas.)

Important advice

- Do not consume these products; natural does not necessarily mean not harmful.
- Avoid contact with eyes and sensitive areas.
- Keep away from children and pets.
- Do not use if allergic to the ingredients.
- Always check the suitability of the fabric, surfaces and furnishings before using.

Homegrown and foraged soap alternatives

Surprisingly, ivy (*Hedera helix*) can be used as a laundry detergent because it contains saponins, and soapwort (*Saponaria officinalis*) can be foraged and grows wild all over Europe and North America. I keep mine in a pot: it is very invasive so do not plant in the ground unless you want it to spread everywhere. As always when foraging, gather away from areas of heavy pollution and make sure you are 100 percent sure that you have an accurate plant ID.

Soapwort has been used as a gentle soap for fabrics and the body for centuries. The leaves and roots contain saponins, which form a light soapy lather when mixed with water. It is especially good for delicate fabrics, and is still used today in conservation when cleaning tapestries and other old fabrics. It was used in the woollen industry to clean fleeces.

Leaves crushed in the hands in water produce a frothy lather just like soap for handwashing. It makes a natural shampoo but do be sure not to get it into your eyes. The roots also make a soapy solution, but I find them such a pain to clean and prepare—it is much easier to stick to the leaves.

Liquid soap for handwashing fabrics

You will need:

— 3½ oz fresh soapwort leaves
— 1 qt water

1 Place the leaves and water into a pan, bring to a boil, replace the lid and simmer for 15 minutes. Leave to cool.

2 When cool, strain through a strainer lined with cheesecloth and pour into a labeled bottle. Add a few drops of essential oil for fragrance if desired. Keep in the fridge for up to a week (after that it gets smelly).

3 To use for handwashing fabric, pour around ⅓–½ cup prepared soap into a bowl of water, whisk to create a lather, and wash as usual. Add a little extra if the solution isn't sudsy enough. To use in a washing machine, add ¾–1 cup to the detergent drawer and wash as usual.

Ivy laundry detergent

The dry method

You will need:

— 8 fresh ivy leaves
— scissors
— mesh laundry wash bag (hosiery bag)

1 The quickest way to use ivy is to pick eight ivy leaves, rinse clean and cut into shreds with scissors.

2 Place the leaves inside a laundry wash bag and put in the washing machine drum.

3 Wash as usual.

The liquid method

You will need:

— 60 fresh ivy leaves
— knife
— saucepan
— 1 qt water
— cheesecloth or tea towel

1 Pick approximately sixty ivy leaves and rinse.

2 Chop and crush the leaves to release the saponins, then place in a pan with the water.

3 Simmer for 20 minutes with the lid on, remove from the heat and leave to cool overnight.

4 Strain into a piece of cheesecloth or a clean tea towel, then squeeze the leaves over the ivy-infused water to release as much of the liquid as possible.

5 Store in a labeled bottle in the fridge, where it will keep for about a week. To use, add ¾–1 cup per load.

Infused cleaning vinegars

Infused cleaning vinegars are one of the best and easiest natural cleaners that you can make. They are almost infinitely adaptable, including whatever herbs are in season or in your pantry, and can be the basis for all sorts of household products. They look rather lovely when infusing, too.

Any vinegar is suitable. I think light ones such as white vinegar or white wine or cider vinegar work best because there is a chance that darker vinegars may discolor work surfaces. Infused cleaning vinegar is very versatile and can be used to make products including multisurface cleaners and toilet cleaners, to remove limescale, as a dishwasher rinse aid, and as a laundry rinse and fabric softener.

My favorite infusing herbs all have antifungal, antiviral, disinfectant or other properties that are beneficial when cleaning. Try basil, lavender, lemon balm, lemon grass, lemon verbena, mint, parsley, rosemary, sage, or thyme. Citrus peels are an excellent addition too.

Infused vinegar

To make an infused vinegar you'll need a large glass jar with a lid, vinegar, and infusing ingredients. You can use it as a basis for all sorts of cleaning products (see below). It keeps indefinitely.

1. Loosely fill the jar with the herbs, then pour over the vinegar.
2. Replace the lid and leave in a cool place out of direct sunlight for 2 weeks, shaking daily.
3. Strain through a sieve lined with cheesecloth and pour into clean, labeled bottles.

The vinegar can be used in various ways to help create the following:

— **Toilet cleaner:** Use undiluted to clean and sanitize toilet bowls.

— **Window cleaner:** Pour into a spray bottle to clean windows, shower walls, and glass surfaces.

— **Multipurpose cleaning spray:** Half fill a spray bottle and top up with water. Good for cleaning kitchens, bathrooms, wooden tables, hard floors, and other hard surfaces.

— **Drain cleaner:** Pour a kettleful of boiling water down the drain. Pour 1 cup of baking soda into the drain, followed by 1 cup of infused vinegar. Leave for around 15 minutes, then pour another kettleful of boiling water down the drain.

Baking soda cleaning mixes

Herbal carpet and soft furnishings freshener
A homemade version of the shake and vacuum powders to freshen carpets, rugs, and furniture. Mix together ⅓ cup baking soda and 2 tbsp finely ground dried herbs; pour into a lidded jar. To use, pour into a jar with a mesh lid (such as a powdered sugar shaker) and shake over the carpets. Leave for 30 minutes before vacuuming it all up.

Herbal scouring powder
This smells lovely and cleans really well. It is ideal for all kinds of tough cleaning jobs. You'll need dried herbs that have been finely ground in a food processor, so that there are no bits that could clog the sink. Mix together ⅔ cup baking soda and 1 tbsp dried ground herbs. Store in a labeled jar.

Soft scrub cleaner
Gradually add liquid castille soap or dish soap to ⅔ cup herbal scouring powder, stirring continuously, until it is a thick, creamy consistency. Store in a labeled jar.

Natural home fragrances

Bringing the garden into our home to make gorgeous fragrances is a lovely way to mark the changing seasons and evoke different senses and moods. They are fantastic alternatives to synthetic sprays, without any of the harmful chemicals.

My favorite ways to make our home smell gorgeous are to create potpourri, simmer pots, and room-freshening sprays from homegrown ingredients. In addition to herbs, fruits and flowers, I also dry citrus peel left over from cooking and add that to some of the mixes. All of these recipes are plastic-free, recyclable, and zero waste.

Experiment to create your own signature scents for different rooms, festivals, and seasons.

Suggestions for ingredients

FROM THE GARDEN		FROM THE PANTRY	FROM THE SPICE RACK
anise hyssop	lemon verbena	coffee beans	allspice
basil	marjoram	dried apple slices	cardamom pods
bay leaves	meadowsweet	dried citrus zest	cinnamon sticks
calendula	mint	dried cranberries	cloves
chamomile flowers	pine needles	dried sliced citrus rings	star anise
cornflowers	rose petals		vanilla pods
eucalyptus	rosemary		
lavender flowers	scented geranium		
lemon balm			

Air freshener spray

Air freshener sprays quickly cover odors and freshen up a room or furnishing fabrics. I like to create different sprays for different rooms: fresh and zingy for the bathroom, relaxing for the bedroom, uplifting for work spaces. The cheapest vodka is fine for this recipe because it is not to be consumed.

You will need:

— your choice of fragrant herbs, flowers, or spices
— vodka

1 Loosely fill a jar with your choice of plant materials, then pour over the vodka to fill the jar. Shake and leave in a cool, dark place for 2 weeks, shaking every few days.

2 Strain through a strainer lined with cheesecloth, discard the plant matter, and pour the scented vodka into a clean bottle.

3 To make the spray, half-fill a spray bottle with the infused vodka, and top up with water. Shake well and spray.

4 Store the infused vodka in a dark cupboard until needed, where it should keep its fragrance for about a year.

Potpourri

Yes, I know that potpourri has something of an old-fashioned reputation, but homemade is nothing like the dusty artificially scented stuff filled with dried up bits of twig and bark.

Fragrant potpourri gently scents a room and is a lovely seasonal gift packed into a jar. Made from natural fragrant plants, it looks beautiful and creates a welcoming fragrance in the home.

While potpourri can be made just with homegrown ingredients, the addition of orris root powder helps the fragrance to last longer. Add 1 tsp

orris root to 3 cups of plant-based ingredients and stir to combine. Place into a large lidded jar to infuse for 24 hours before using.

To reinvigorate your potpourri, add a few drops of essential oil (choose a scent that is appropriate for your choice of herbal mix) and mix through.

POTPOURRI SACHETS

Fill homemade fabric sachets with your chosen potpourri blends and tie together. Place in drawers and inside cupboards to gently scent. These are lovely popped inside shoes, too, to remove odors.

SIMMER POTPOURRIS

These stove-top potpourris are a delicious blend of ingredients added to a pot of water on a low heat. They spread fragrance farther than dried potpourri or scented candles, quickly creating an evocative mood or covering up unpleasant odors.

I love to choose ingredients according to the mood: rosemary and pine for writing Christmas cards while lime, thyme and mint create lively freshness, and spiced orange smells gorgeously of fall. Other combinations are good for relaxing (try lavender and vanilla pods) or infusing the air with herbs that help with seasonal colds and bugs (eucalyptus, pine, rosemary, thyme).

They are a great way of using up dried herbs and spices that are past their prime. All of the ingredients can be added to the compost afterward.

Any heatproof pans are ideal for simmer pots. I mostly use a couple of old, small cast iron pans, but because the ingredients are safe to eat any pan is fine. (Do wash before using to cook your dinner!) During winter I have the wood-burner on most days, and so pop the simmer pot on to infuse the house with scrumptious fragrance.

To make a simmer pot, place the ingredients in the pan and pour over boiling water to 2 inches below the rim. Simmer on a heat source—kitchen stove or wood stove—checking regularly so that the water doesn’t boil dry, and top up as needed. You can also use a fondue pot, candle food warmer or electric slow cooker on a low setting with the lid off. Small pots on top of warm radiators work well too.

Never leave simmer pots unattended or allow them to burn dry.

Ingredients for simmer pot recipes

It really doesn't matter how much you put in: the more you add of one ingredient, the more powerful the fragrance. The key is not to overfill the pan.

Relaxing:
- lavender flowers
- scented geranium leaves
- vanilla pods (split in half down the middle)

Gingerbread:
- 2 tbsp dark brown sugar
- 2 cinnamon sticks
- 1 tbsp ginger powder
- 3 slices ginger root
- 6 cloves

Spiced orange:
- orange peel or orange slices
- cinnamon
- star anise
- cloves
- ginger
- vanilla pods (split in half down the middle)

Christmas cranberry:
- cranberries
- ½ tsp mixed spice
- cloves
- citrus peel or slices
- cinnamon

Spiced bay leaf:
- cinnamon
- ginger
- cloves
- bay leaves

Coffee bean:
- ½ cup coffee beans
- cardamom
- cinnamon or vanilla

Cranberry apple:

— cranberries
— apple peelings and cores or dried apple rings
— slices of ginger root

Zingy:
— lime or lemon (peel or slices)
— thyme
— mint
— ginger

Body care

I first started learning how to make natural body care in my twenties when I realized that I was allergic to many of the ingredients in manufactured soaps, skin moisturizers, and other cosmetics. The artificial fragrances, in particular, caused headaches, spots, and sneezing fits. When you care about what you put inside your body, it makes sense to think about what you put on your skin too.

Carrier oils

Carrier oils are used to make skin care products. They each have different properties:

— **Apricot oil:** High in oleic acid, anti-inflammatory.

— **Coconut oil:** Vitamins A, B, and E, beneficial for skin and hair, smells strongly of coconut.

— **Grapeseed oil:** High in linoleic acid, vitamins A and B, odorless.

— **Jojoba oil:** Rich in vitamins B and E, helps repair damaged skin.

— **Olive oil:** Rich in fatty acids and vitamins, good for cleansing and moisturizing.

— **Sunflower oil:** Rich in linoleic acid and lecithin, nourishing and conditioning.

— **Sweet almond oil:** Rich in vitamin D, boosts collagen, good for hydrating skin.

All will work in these recipes. Coconut oil is a solid at room temperatures so melt it first in a bain marie (hot water bath).

Rosehip skin and body care oil

Rosehips have been used in skin care for centuries to keep skin healthy. Here are two ways to make this oil: a slow infusion and a faster recipe requiring a slow cooker. For both recipes, rinse and dry your rosehips by laying out on clean tea towels in a sunny location before using.

Use as a hydrating face and body oil, massage oil, or for other treatments such as lip balms, salves, and body scrubs.

You will need:

— a large glass jar for infusing
— strainer lined with cheesecloth
— glass storage jar (dark glass is best)
— glass fermentation weight for the cold infusion method
— 1¼ cup carrier oil
— 5¼ oz rosehips (or 2¼ oz dried)

Slow cooker method

1 Pour the oil and rosehips into a heatproof container such as a preserving jar, making sure there's 1 inch or so between the oil and the top. Replace the lid.

2 Place in the slow cooker on a low setting for 8 hours, with around 2–3 inches of water. Check periodically and top up with water if necessary.

3 Leave to cool.

Cold infusion method

1 Put the rosehips in a large jar, pour over the oil, and stir gently.

2 Place the fermentation weight on top to keep the rosehips submerged in the oil. Replace the lid.

3 Leave the jar in a warm room out of direct sunlight for 2 weeks to infuse. Shake the jar every few days.

Both methods

1. When the rosehips have finished infusing, strain into a jug through a strainer lined with cheesecloth. Compost the rosehips.
2. Pour into a glass bottle, label, and store out of direct sunlight. It should keep for 6 months or so.
3. To make rosehip salve, follow the method on this page.

Sugar scrubs

Sugar scrubs gently exfoliate, nourish, and moisturize the skin, removing dead cells and helping you to feel revitalized.

They are easy to make, and especially lovely if you use homemade carrier oils, herbs, and flowers. As well as using on the body, keep a jar by the sink for deep-cleaning hands after gardening.

Scrubs are oily, so be careful if using in the bath or shower because they can make the surfaces slippery. Avoid applying in delicate places, on the face, and near to the eyes.

Suggested herbs and flowers include:

- **infused rosehip oil (see here) with rose petals and a few drops of rose essential oil**
- **infused calendula oil (same method as rosehip oil, with finely chopped calendula petals**
- **finely chopped dried lavender and rosemary with any neutral carrier oil**
- **finely chopped dried lemon balm, lemon verbena, or mint with any neutral carrier oil.**

You will need:

- mixing bowl and wooden spoon
- glass jars with lids and labels
- 1 cup sugar (any kind from granulated white to dark brown)
- 10 tsp infused or other carrier oil, plus more if needed
- 1–2 tbsp finely chopped herbs or flower petals (optional)

1 Place the sugar in a bowl and mix in the petals or herbs if using. Pour in the oil, stirring to mix.

2 Transfer to a clean, labeled jar and replace the lid. Use within a month.

For a lip scrub, mix 1 tbsp sugar with 1 tsp infused oil. Stir to make a paste, adding more oil if needed. Store in a small jar in the fridge, where it will last for about a month.

Lip balm

Protect and moisturize your lips using infused oils. Coconut oil works well in this recipe because it is solid at room temperature.

Replace the beeswax with candelilla or carnauba wax for a vegan lip balm. You can purchase lip balm tubes and small tins to use; alternatively small individual jam jars, cleaned, are also an excellent upcycled option.

You will need:

— heatproof bowl and pan to make a bain marie
— spoons
— small funnel for filling
— lip balm tubes or small tins or jars.
— 2 tbsp coconut or other carrier oil
— 2 tbsp cocoa butter or shea butter
— 2 tbsp beeswax or vegan alternative
— 1–10 drops of essential oil such as peppermint or lemon (optional)

1 Place all of the ingredients (except the essential oil, if using) in the bain marie.

2 Melt over a low heat, stirring until everything has melted. Remove from the heat and add essential oil. Stir.

3 Carefully pour the mixture into the containers; use a funnel if you're filling tubes.

4 Leave to cool, then replace the lids and label. They are ready to use.

Rosehip salve

Rosehip salve is nourishing, gentle, and healing. Apply to itchy skin, minor windburn, and dry skin. This recipe is adaptable and works with any infused oil.

You will need:

— heatproof bowl and pan to make a bain marie
— spoons to stir
— jars to store the salve
— 7 tbsp infused rosehip oil
— ½ oz beeswax or vegan alternative

1 Grate the beeswax if not using granules.

2 Place in the bain marie with the oil on a low heat, and stir until the wax has melted.

3 Remove from the heat and carefully pour into the jars.

4 Seal, label and leave to cool. Keeps for at least 6 months.

Remedies

Traditionally, cottage gardens were used as an apothecary as well as for sustenance, and included plants that can be used to make simple remedies. Learning how to make salves and other natural, herbal remedies is an enjoyable skill, adding another dimension to the productive garden.

Many of the herbs and flowers grown in my homestead have traditional healing properties, used to boost the immune system and soothe aches and pains. Here are some of my favorite recipes for healing remedies.

Aloe vera

Keep one or two aloe vera plants on the windowsill in the kitchen or bathroom. The gel is a gentle healer for itchy skin and can help to soothe sunburn and minor burns. Just open up part of a leaf and rub the green gel within onto unbroken skin.

Calendula and lavender wound wash

This is a gentle way to clean minor wounds (think garden scrapes and scratches, not deep cuts). I keep a mix of dried calendula and lavender in a jar so that I can quickly make this up. Calendula and lavender can help to disinfect wounds and speed up healing. As it takes 15 minutes to brew, always wash the wounds in clean water while you wait.

Combine 1 tbsp fresh calendula (or ½ tbsp dried), 1 tbsp fresh lavender (or ½ tbsp dried), and 1 cup boiling water. Steep the flowers in the boiling water for around 15 minutes, then strain. Treat the affected area with the wash using a clean cloth.

Comfrey oil and salve

Comfrey oil helps with the healing of bruises, bumps and joint and muscular pain. Never use comfrey oil or salve on open wounds; it could cause the wound to heal and trap dirt or microbes on the inside, causing infection. The oil and salve are for external use only and should not be consumed.

COMFREY ROOT OIL

I harvest comfrey root in early spring and late fall. Dig out a good-size chunk, then scrape off the soil and prepare the root straight away. It is much easier to peel and chop fresh roots.

Peel carefully, then chop into tiny ¼-inch cubes. Spread out and leave to air dry for 24 hours. (You can also fully dry the cubes and store for later use.)

Half fill a glass jar with the root pieces, then pour over the carrier oil to fill. Replace the lid and leave somewhere cool and dark for 6 weeks, shaking every few days. Alternatively, use the slow cooker method.

When it is ready, strain through a strainer lined with cheesecloth, and discard the root pieces. Pour into a labeled jar and seal. This should last for a year.

COMFREY AND CALENDULA SALVE

Make ¼ cup comfrey oil and ¼ cup calendula oil (using the the same methods as rosehip oil, here). Then combine them, following the salve recipe method on this page, to make a soothing ointment which is especially good for tired and aching joints.

COMFREY AND LAVENDER SALVE

Make ¼ cup comfrey oil and ¼ cup lavender oil (using the methods on this page). Then, using the method on this page, make into a gentle salve that combines the healing properties of comfrey and lavender, and smells gorgeous.

Alternatively, fill a glass jar one-quarter with comfrey leaves and one-quarter with lavender flowers. Fill with carrier oil and follow the infusion method. Then follow the salve recipe method on this page.

Vinegars

Vinegar has a variety of fantastic applications—from a powerful fungicide, to cleaning agent, health tonic, and of course as a delicious addition to salad dressings. See here for how to make two of my favorite vinegar recipes: four thieves vinegar and fire cider.

Four thieves vinegar

In folklore, this vinegar was said to protect against the Black Death and obtained its name when it was exchanged for the release of a band of four thieves. The vinegar has been used over the centuries as a cleaning agent (it's great for kitchens and bathrooms) as well as for salad dressings.

For a sore throat gargle, dilute 2 teaspoons vinegar in 4 teaspoons hot water. Pour a cupful into a bowl of warm water for a therapeutic foot soak. It is said to be an effective insect repellent spray, but it is so smelly I have not tried!

You can replace the fresh ingredients with dried; just reduce the quantities by half (for example, 1 tablespoon dried lavender).

You will need:

— 2 cups apple cider vinegar
— 2 tbsp fresh sage
— 2 tbsp fresh thyme
— 2 tbsp fresh lavender
— 2 tbsp fresh rosemary
— 2 tbsp fresh mint
— 2 tbsp fresh oregano
— 4 garlic cloves, peeled and chopped

1 Strip the herbs from their stalks and chop. Place in a clean glass jar, add the chopped garlic and pour over the vinegar.

2 Leave to infuse for a month in a cool, dark place; shake occasionally.

3 Strain through a strainer lined with cheesecloth and compost the herbs.

4 Pour into a clean bottle and label. The vinegar will store for a year.

Fire cider

Fire cider is an immune-boosting tonic. It has a powerful fiery flavor but I find that it really helps with winter colds and lurgies. For colds, add 2 teaspoons of fire cider to some hot or cold water and drink. Add honey, homemade dandelion honey, or agave syrup to sweeten. For sore throats, mix 1 teaspoon fire cider with 1 teaspoon water and use as a gargle. This also makes an excellent tangy salad dressing, marinade, or addition to sauces.

The horseradish is optional (wear gloves when preparing) but definitely recommended.

You will need:

— a large clean lidded jar, about 1½ qt capacity
— 1 qt apple cider vinegar
— 4 in. piece horseradish, peeled (optional)
— 4 in. fresh ginger root
— 4 in. fresh turmeric root
— 3 chilies
— 1 tbsp black peppercorns
— 1 whole garlic bulb
— 1 stick cinnamon
— 3 stalks fresh rosemary, about 4 in. long
— 3 sprigs thyme
— 3 sprigs sage
— 1 orange
— 1 lemon

1 Thinly slice the horseradish, ginger, turmeric, lemon, and orange. Chop the chilies. Remove the outer skin of the garlic bulb, then cut into slices.

2 Gradually layer the ingredients in the jar, adding a sprinkle of peppercorns every now and then.

3 Pour over the cider vinegar, pushing the ingredients down with a wooden spoon to make sure they are completely submerged. Add a

fermentation weight if you have one.

4 Place in a cool place out of direct sunlight for 4 weeks.

5 Strain through a strainer lined with cheesecloth, then pour the fire cider into clean labeled bottles. Store in a cool, dry place for up to a year.

Healing teas

There is something so comforting about a hot cup of herbal tea, and many have healing properties that have been used for centuries. These recipes can help to ease day-to-day ailments. I make herbal tea in a small glass teapot with an infuser which is enough for two cups.

For all these recipes, add honey, dandelion honey or agave syrup if you want them to taste sweeter.

ROSEMARY TEA FOR MEMORY AND DIGESTION

Rosemary tea can boost the memory and clear the mind, making it excellent when studying. It can also help with digestion and circulation.

A mug of hot water with a few sprigs of rosemary in it, used as an air freshener and positioned close to where you are working, can help freshen the air, clear the head and promote concentration.

Place a sprig of rosemary into the teapot and pour over boiling water. A sprig of mint is a lovely addition. Infuse for 10 minutes, then remove the herbs.

LEMONY ENERGIZING TEA

This invigorating blend is perfect for when you need a boost and it tastes delicious. During the summer I make it with fresh herbs, popping a sprig of each into the pot, and in the winter I keep a jar of the blend ready mixed.

For 4 ounces of tea blend, combine 1 ounce each dried chopped lemon grass, dried lemon verbena, dried lemon balm and dried fennel fronds. Add 2 teaspoons of the mix to the teapot, pour over hot water and brew for five to 10 minutes, then remove the herbs.

LEMON BALM TEA TO REDUCE STRESS AND EASE INDIGESTION

Lemon balm's many healing properties include reducing anxiety, easing bloating, and indigestion and aiding relaxation. It is also said to help cold sores heal more quickly.

Put two or three sprigs of fresh lemon balm (or 1 teaspoon dried) into the teapot. Pour over the boiling water and leave to infuse for 10 minutes, then remove the herbs.

SLEEPY TIME TEA

I always use dried herbs and flowers to make this tea, kept ready-mixed in a jar beside the kettle: 3 teaspoons per pot. Place 1 teaspoon dried chamomile, 1 teaspoon dried rose petals, and 1 teaspoon dried lavender into the pot and pour over boiling water. Leave to brew for 5 minutes, then remove the herbs. To use fresh ingredients, just double the quantity: 2 teaspoons of each, instead of 1.

THYME TEA FOR SORE THROATS

Thyme has natural antimicrobial and antioxidant properties that can help to relieve coughs and sore throats. This tea also makes a good sore throat gargle. It is an acquired taste!

Place three or four sprigs of thyme, or 1 teaspoon dried, in the pot. Pour over boiling water. Brew for about 7 to 10 minutes, then remove the thyme.

Optional extras: a slice of lemon or ginger.

FRUITY TEA FOR COLDS

Elderberries and rosehips are real powerhouses when it comes to fighting off winter bugs and chills. I use them to make healing syrups and this delicious tea blend. When simmering, I like to add two cloves, a small piece of cinnamon, and a slice of fresh lemon and ginger root.

This tea needs to be simmered in a pan and makes a quart. Pour into a thermos flask to keep hot, which saves the trouble of making it several times in a day.

To make 4 ounces of tea blend, combine 2 ounces each dried elderberries and dried rosehips and store in a jar. It keeps for at least a year.

Place 3 tablespoons tea blend in a pan with a slice or two of ginger, two cloves, the cinnamon, and 1 quart boiling water. Simmer for 20 minutes, strain and serve with a slice of lemon.

Flower crafts

Gathering flowers to use in crafts is a lovely way of preserving the season, capturing moments in time. Working with pressed flowers can transport me back to the first flowers in spring, the glory of the garden in midsummer, or the blaze of color in fall. I've always enjoyed crafting, and using plants to make special gifts for my home and others is, quite simply, a natural extension of homesteading.

Flower pressing

Pressing flowers is a traditional way to make beautiful crafting materials and preserve the garden in an artistic way. It need not be limited to flowers: leaves, stems, ferns, and many herbs work really well.

The best kind of plant material for pressing is fairly flat with a single layer of petals. Thick flowers such as lilies are trickier, but it is possible to press them. Give them longer in the flower press and tighten up after a few days, or separate the petals before pressing, reassembling after they have dried.

Always choose the healthiest flowers and plants, and pick them early in the morning after the dew has evaporated. If you do need to pick damp flowers and foliage, pat dry with a tea towel before pressing. The easiest flowers to use are those that easily compress, such as violas, daisies, or poppies. Flowers with thick stems and flower heads can have too high a water content to press properly and may get moldy.

Arrange so that similar thicknesses of plants are pressed on the same page. Tweezers are helpful for removing the plants from the paper, or use the tip of a blunt knife.

The traditional way to press flowers is simply with greaseproof paper and a book. Fold a sheet of greaseproof paper, a little larger than the size of the opened book, in half. Place inside the book, with the fold aligned with the fold of the book. Place a sheet of absorbent paper on top of one side of the greaseproof paper and arrange the plants. Fold the greaseproof paper over the top and close the book. Repeat this process several times, until all

of your plants are arranged inside. Close the book carefully, place the weights on top and leave for 2 to 4 weeks.

Flower press method

Flower presses are widely available to buy; mine were found in charity shops. Alternatively, make your own to any size you wish. I find that 12 × 12 inches works well. Ideally, you'll want several layers of cardboard and pressing paper. The number of layers you can fit depends on the length of the bolts. This method takes approximately 2 to 4 weeks.

To make your own, you will need:

— 2 pieces of plywood
— sheets of cardboard from packaging or similar
— thick paper for pressing
— four bolts with wingnuts

1 Drill a hole in each corner of the plywood pieces the right size for the bolts, about ¾ inch from the edge, ensuring that all the holes in the top board align with the bottom board.

2 Trim the cardboard and paper by cutting off a triangle at each corner, so that they will fit inside the frame when the bolts are in place.

3 Place the bolts through the bottom piece of plywood and put a piece of cardboard on top. Place two sheets of paper on top of the cardboard.

4 Place another piece of cardboard on top, followed by two more sheets of paper, and so on until the flower press has as many layers as you can comfortably fit.

5 Finish with a piece of cardboard, followed by the top plywood. Secure the press with the wingnuts.

6 To use, layer the plant materials between each double layer of paper. Once the flower press is full, secure the bolts and tighten as much as you can.

Flower pounding

Flower pounding is a fun, simple way of making flower and leaf prints using natural materials to create beautiful botanical images. Suitable for all ages, flower pounding needs simple household equipment and natural plant dyes to print on paper or fabric. Each impression will be slightly different from the last. Some images are almost perfect replicas; others give more of a creative impression.

With this process you can preserve the summer garden, create holiday memorabilia, make unique gifts, and other crafts including collages, bookmarks, tablecloths, gift cards, wrapping paper, napkins, and framed

prints. It is fun to enhance your creations with watercolors or pencils. Some artists have used embroidery and quilting on hammer-printed fabric.

You will need:

— flowers and leaves—use dry plant materials
— towel
— wood cutting board or similar
— parchment paper
— scissors
— tweezers
— hammers or smooth pebbles of different sizes
— masking tape
— scraper
— clothes iron
— tea towels or paper towels
— natural-fiber fabrics—cotton, linen, wool, silk, bamboo
— paper—thick artist paper, cardboard, or handmade paper
— optional extras: bulldog clips or binder clips (instead of tape), pens, pencils, fabric pens, ribbons, sewing materials, watercolors

Mordant bath for preparing fabrics

If you are printing on fabric, preparing a mordant bath can help the natural dyes to adhere to the fabric for longer. It is best to sponge-clean rather than wash as some flower dyes are not colorfast. The flower pounding will still work if you skip this step.

You will need:

— bucket
— hot water
— stirring spoon
— iron and ironing board
— alum powder (available from pharmacies and online)
— cream of tartar (from supermarkets and online)
— natural-fiber fabrics—lighter colors work best
— washing soda

1 Wash your fabric as usual, adding 2 tablespoons washing soda to the detergent.

2 Dissolve 4 tablespoons alum and 3 tablespoons cream of tartar in 5 quarts hot water in the bucket; add the wet items and stir.

3 Leave submerged in the bucket overnight, then wring out and line dry. Iron before printing.

Tip: Do not use plant matter with toxic sap. Safety first: take care of fingers, faces, and other body parts. Be mindful of those around you. Young children should be guided in safe ways of using a hammer. Smooth pebbles that can be clutched in a fist are ideal for the very young and fun for all ages too: ideal for making impromptu designs when out and about.

How to flower pound

I usually set this up on a solid table but the floor is also ideal, especially for younger children.

1 Fold the towel (to cushion the sound and prevent the board from sliding around) and place the cutting board on top.

2 Cover the cutting board with a piece of parchment paper (taped on) or an old cloth to prevent the flower dyes from staining the board, if you wish.

3 Place the paper or fabric on top and tape securely, or fasten with clips.

4 Check the plant materials for unexpected insects. Arrange the flowers and leaves on top, face down. The side touching the fabric will print the image.

5 Remove stalks unless they are part of your design. Flowers and leaves with a flatter nature can be placed as they are. Remove the petals from flowers with an abundance of petals or thick, juicy stems and reassemble on the board in an artistic manner.

6 Tape the flowers down using masking tape (easily removed). This optional step keeps the flowers from moving around while hammering.

7 Cover with spare fabric or scrap paper and start hammering, moving over the plant material methodically to make sure all areas are hammered. Check the design by carefully peeling back the flowers and hammer some more if they have not fully printed. The hammering can be noisy! Experiment with different types of hammers; some have interesting textures, which add another dimension.

8 Carefully remove the masking tape (if using) and flowers, scraping off any that are stuck to the paper or fabric. Add the plant materials to the compost heap.

9 If printing on fabric, cover with a layer of parchment paper and a kitchen towel, then iron to “fix” the design.

10 Admire your beautiful artwork!

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Part Four

Useful Resources

Recommended Reading and Websites

Stephanie's online resources

website: www.nodighome.com
For updates from Stephanie's garden, more homesteading ideas and projects, and information about courses, workshops, and talks, including online ones. The website also has recipes and projects mentioned but not described in detail in this book, such as "dead hedges," creating a bokashi bin, making herb oil with woody herbs, cordial recipes, and homemade cleaning cloth patterns and tutorials.

Instagram: www.instagram.com/stephaniehafferty

YouTube channel: www.youtube.com/@stephaniehaffertyhomesteading

Gardening, growing, and foraging

- Harry Baker, *Growing Fruit: The RHS Encyclopedia of Practical Gardening* (Mitchell Beazley, 1999): ***packed with clear, excellent advice for fruit growing, including pruning techniques***
- Deni Brown, *RHS Encyclopedia of Herbs and Their Uses* (Dorling Kindersley, 2003): ***featuring over a thousand herbs, with photographs for identification, and culinary, medicinal, and commercial uses***
- Jack First, *Hot Beds* (Green Books, 2013): ***how to grow early crops using this ancient technique***
- Alys Fowler, *A Modern Herbal* (Penguin, 2019): ***plant-based medicine for a calmer, healthier life***
- Alys Fowler, *The Thrifty Forager* (Kyle Cathie, 2011): ***a guide to foraging the weeds in your garden and in urban locations that is packed with useful information***
- Pippa Greenwood and Andrew Halstead, *RHS Pests and Diseases* (Dorling Kindersley, 2018): ***a useful guide to identifying pests and diseases, with an emphasis on organic solutions, though it does***

include some chemical recommendations that I wouldn't use in my garden

— Niki Jabbour, *The Year-Round Vegetable Gardener* (Storey, 2011): ***how to grow food year-round, even in very cold locations***
— Joy Larkcom, *The Salad Garden* (Frances Lincoln, 2017): ***how to grow a wide range of salad crops year-round***
— Nigel Palmer, *The Regenerative Grower's Guide to Garden Amendments* (Chelsea Green, 2020): ***how to make mineral and biological extracts and ferments using locally sourced ingredients***
— Roger Phillips, *Mushrooms* (Macmillan, 2006): ***a superb guide to mushroom identification***
— Roger Phillips, *Wild Food: A Complete Guide for Foragers* (Macmillan, 2014): ***beautifully illustrated and detailed guide to foraging, including over a hundred recipes—the book that introduced me to foraging***
— Royal Horticultural Society, www.rhs.org.uk/fruit/fruit-trees/rootstocks: ***an online guide to fruit tree rootstocks***
— Matthew Seal and Julie Bruton-Seal, *Hedgerow Medicine* (Merlin Unwin, 2008): ***a guide to foraging wild plants, with recipes***
— John Wright, *The Forager's Calendar: A Seasonal Guide to Nature's Wild Harvests* (Profile Books, 2020): ***a month-by-month guide to foraging and what to make with foraged ingredients***

Plant hardiness and growing zones

www.planthardiness.ars.usda.gov: interactive map to find your hardiness zone

Seed saving

— Lee Buttala and Shanyn Siegel, *The Seed Garden: The Art and Practice of Seed Saving* (Chelsea Green, 2015): ***a comprehensive guide to seed saving by the Seed Savers Exchange***
— Real Seeds, www.realseeds.co.uk: ***a website with information on how to save seeds from a wide range of plants, plans for making a seed***

cleaning tool, printable seed packets, and more seed saving tips

— Sue Stickland, *Back Garden Seed Saving: Keeping our Vegetable Heritage Alive* (Eco-Logic Books, 2008): ***an excellent guide to saving your own seed***

Mangelwurzel seeds

www.rareseeds.com

Preserving, fermenting, brewing, and dehydrating

— Pam Corbin, *Pam the Jam: The Book of Preserves* (Bloomsbury, 2019): ***a fantastic range of recipes that really work, with suggestions about what to make with your jars of preserves***

— Pam Corbin, *Preserves: River Cottage Handbook No. 2* (Bloomsbury, 2008): ***seventy-five recipes for jams, chutneys, pickles, cordials, vinegars and more***

— Rachel de Thample, *Fermentation: River Cottage Handbook No. 18* (Bloomsbury, 2020): ***over eighty recipes for making delicious preserves at home***

— Mark Diacono, *Ferment from Scratch* (Quadrille, 2022): ***a well-explained guide to fermenting at home***

— Excalibur Products, Inc., *Preserve It Naturally: The Complete Guide to Food Dehydration* (Excalibur, 2019): ***a clearly written guide to dehydrating***

— Tammy Gangloff, *The Ultimate Dehydrator Cookbook* (Stackpole Books, 2015): ***packed with knowledge about dehydrating techniques, safety, storage, and recipes***

— Sandor Ellix Katz, *The Art of Fermentation* (Chelsea Green, 2012): ***a comprehensive guide to a huge number of fermenting techniques from across the globe***

— Judi Kingry and Lauren Devine, eds, *Ball Complete Book of Home Preserving* (Robert Rose, 2006): ***over four hundred recipes for***

canning, including safe preserving techniques and adjustments for altitude

— Teresa Marrone, *The Beginner's Guide to Dehydrating Food* (Storey, 2018): ***with instructions and techniques for drying many popular vegetables, herbs, and fruits, this book has superb before and after photos showing how properly dehydrated food should look***

— National Center for Home Food Preservation, www.nchfp.uga.edu: ***a useful American website with lots of information about safe preserving***

— Marguerite Patten, *The Basic Basics Jams, Preserves and Chutneys Handbook* (Grub Street Publishing, 2001): ***tested recipes for preserves, very clearly explained***

— Dearbhla Reynolds, *The Cultured Club* (Gill Books, 2016): ***a detailed introduction to fermentation with some fabulous recipes***

— Stephanie Thurow, *Weck Small-Batch Preserving* (Skyhorse, 2018): ***recipes for water bath canning smaller quantities***

— *The Weck Home Canning Book*, English edition (Weck, 1984): ***out of print so you'll need to find a second-hand copy—a really useful guide to water bath canning***

— Dorothy Wise, *Home-Made Country Wines, Beer, Mead and Metheglin* (Hamlyn, 1955): ***an absolute classic—try to find a second-hand copy***

— Beryl Wood, *Let's Preserve It* (Square Peg, 2011): ***with 579 recipes, this is the book that introduced me to preserving (my battered copy was published in 1972)***

Sowing & harvesting schedule

	SPRING		
	EARLY	MID	LATE
VEGETABLES			
Asian greens			
Beans – runner, French and storage beans			
Beets			
Broad beans			
Carrots			
Celery			
Chard			
Chicory & radicchio			

	SPRING		
	EARLY	MID	LATE
Chilies			
Florence fennel			
Garlic			
Kale			
Leeks			
Lettuce			
Mangelwurzels			
Onions			
Parsnips			

	SPRING		
	EARLY	MID	LATE
Peas			
Radishes			
Spring onions			
Sprouting brassicas			
Summer squash & zucchini			
Sweet peppers			
Sweetcorn			
Tomatoes			
Winter squash			

	SPRING		
	EARLY	MID	LATE
HERBS			
Basil			
Chives			
Cilantro			
Dill			
Lemon balm			
Lemon grass			
Sweet cicely			
EDIBLE FLOWERS			

	SPRING		
	EARLY	MID	LATE
Borage			
Calendula			
Cornflower			
Gem marigold			
Nasturtium			
Viola			

	SUMMER		
	EARLY	MID	LATE
VEGETABLES			
Asian greens			
Beans – runner, French and storage beans			

	SUMMER		
	EARLY	MID	LATE
Beets			— •••
Broad beans	•••	•••	•••
Carrots	— •••	— •••	— •••
Celery	—	— •••	•••
Chard	— •••	— •••	— •••
Chicory & radicchio	—	—	—
Chilies		•••	•••
Florence fennel	— •••	— •••	— •••
Garlic	•••	•••	•••

	SUMMER		
	EARLY	MID	LATE
Kale	——— ·····	——— ·····	——— ·····
Leeks	———		
Lettuce	——— ·····	——— ·····	——— ·····
Mangelwurzels	———	———	
Onions			·····
Parsnips	———		
Peas	——— ·····	——— ·····	·····
Radishes	——— ·····	——— ·····	——— ·····
Spring onions	——— ·····	——— ·····	——— ·····
Sprouting brassicas	———		·····

	SUMMER		
	EARLY	MID	LATE
Summer squash & zucchini	———	.....	.....
Sweet peppers			.....
Sweetcorn			.....
Tomatoes	.....	.....	.....
Winter squash			
HERBS			
Basil	———	———	.....
Chives	.....	.....	.....
Cilantro	———	———	——— .....

	SUMMER		
	EARLY	MID	LATE
Dill	———	———	———
Lemon balm			
Lemon grass			
Sweet cicely			
EDIBLE FLOWERS			
Borage			
Calendula	———		
Cornflower			
Gem marigold	———		

	SUMMER		
	EARLY	MID	LATE
Nasturtium			
Viola			

	FALL		
	EARLY	MID	LATE
VEGETABLES			
Asian greens			
Beans – runner, French and storage beans			
Beets			
Broad beans			
Carrots			

	FALL		
	EARLY	MID	LATE
Celery			
Chard			
Chicory & radicchio			
Chilies			
Florence fennel			
Garlic			
Kale			
Leeks			
Lettuce			
Mangelwurzels			

	FALL		
	EARLY	MID	LATE
Onions			
Parsnips			
Peas			
Radishes			
Spring onions			
Sprouting brassicas			
Summer squash & zucchini			
Sweet peppers			
Sweetcorn			
Tomatoes			

	FALL		
	EARLY	MID	LATE
Winter squash			
HERBS			
Basil			
Chives			
Cilantro			
Dill			
Lemon balm			
Lemon grass			
Sweet cicely			

	FALL		
	EARLY	MID	LATE
EDIBLE FLOWERS			
Borage			
Calendula			
Cornflower			
Gem marigold			
Nasturtium			
Viola			

	WINTER		
	EARLY	MID	LATE
VEGETABLES			
Asian greens			

	WINTER		
	EARLY	MID	LATE
Beans – runner, French and storage beans			
Beets	.....	.....	.....
Broad beans			
Carrots	.....		———
Celery	.....	.....	——— .....
Chard	.....	.....	.....
Chicory & radicchio	.....	.....	.....
Chilies		———	———
Florence fennel			
Garlic			———
Kale	.....	.....	.....

	WINTER		
	EARLY	MID	LATE
Leeks	.....	.....	——— .....
Lettuce	.....	.....	——— .....
Mangelwurzels	.....		
Onions	———	———	———
Parsnips	.....	.....	.....
Peas			
Radishes	.....		
Spring onions	.....	.....	.....
Sprouting brassicas	.....	.....	.....
Summer squash & zucchini			

	WINTER		
	EARLY	MID	LATE
Sweet peppers			
Sweetcorn			
Tomatoes			
Winter squash			
HERBS			
Basil			
Chives			
Cilantro			
Dill			
Lemon balm			

	WINTER		
	EARLY	MID	LATE
Lemon grass	•••••••••••••		———
Sweet cicely			
EDIBLE FLOWERS			
Borage			
Calendula			
Cornflower			
Gem marigold			
Nasturtium			
Viola	•••••••••••••		

Key

Sow under cover ———

Direct-sow ▬▬▬

Harvest •••••••••

Foraging

Foraging is a deeply pleasurable activity. Going for a walk and returning with a basket filled with delicious free gifts from nature is fun. Connecting us with our hunter-gatherer ancestors, foraging may no longer be a crucial part of our survival, but it increases our self-reliance, helps to save money, and gives a sense of achievement. A basket full of free food!

A brief introduction

Foraging also connects us with our environment and the seasons. Wild harvests are available according to the time of year. Nature does not use greenhouses or protective covers to grow out of season or speed up harvest times. The produce is ready when the time is right: wild garlic in the spring, late summer blackberries, fall rosehips.

Whether foraging in an urban environment or along rural lanes, in hedgerows around gardens or for edible weeds in vegetable beds, foraging adds delicious, varied ingredients to the kitchen. It opens up a wide range of different nutrients and flavors, including coconut-flavored yellow gorse blossoms, incredibly sweet bilberries that stain tongues blue, tart rowan berries that are transformed into the most delicious jelly, and surprisingly tasty nettle tops in spring soups.

Foraging helps to foster a love of nature and can involve the whole family. It expands knowledge of wild edibles, skills that have been handed down from generation to generation but were nearly lost in our time.

Wild plants are not just for meals, preserves, and drinks. The thrifty gardener can also forage for plants to use for dyes, mulches, and plant foods.

Of course, it is vitally important that you only pick plants that you are 100 percent certain are edible. There are plenty of wild plants that resemble edibles but are toxic and harmful, including some that can burn the skin if handled. Learn from experts or use a detailed guide (see here).

USEFUL THINGS TO TAKE FORAGING

— A walking stick with a curved top, to hook down high branches.
— Thornproof gloves for handling prickly plants such as brambles or gorse.
— Gloves to protect against stinging nettles when harvesting.
— Hand pruners or a sharp pocket knife.
— String.
— Containers for easily crushed materials such as berries and wild flowers.
— Washable thin cotton bags or reusable plastic bags.
— A basket to carry everything home.

FORAGING TIPS

— Wear sensible clothes, including closed-toe footwear such as boots. Flowy dresses look lovely on social media but catch easily on brambles and hedges.
— Always harvest from plants carefully and respectfully, so that the plants will thrive.
— Never pick from isolated plants, only if there are plenty in the area.
— Take a little from each, leaving enough for wildlife to enjoy.
— Do not dig up wild plants, which is illegal.
— Check for insects, including insect eggs, so that you don’t accidentally bring them home.
— Do not pick from national nature reserves or restricted areas.
— Ask permission before foraging on private land or public parks.
— Pick above the “wee line”: where dogs and other animals will not have urinated.
— Avoid picking from polluted areas, e.g. near very busy roads, on old industrial sites, where weedkillers might have been sprayed, or where farmers may have sprayed herbicides or insecticides.
— Always wash your foraged finds before consuming.

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About the author

Stephanie Hafferty is an expert edible gardener, homesteader, garden designer, consultant, speaker and award-winning garden and food writer.

A leading voice in sustainable gardening, Stephanie has been growing her own food for over 30 years. She specializes in growing food year-round, affordably on a shoestring budget, using eco-friendly no-dig methods, and creating recipes for nutritious meals, as well as home and body care products.

With decades of practical gardening and homesteading experience, she has created and worked in organic kitchen gardens on private estates for celebrity clients, community gardens, market gardens, and for restaurants, as well as for her family in her home garden.

In 2021 she co-designed and project managed an RHS Show Garden for RHS Hampton Court Garden Festival.

In 2021 Stephanie moved to rural Wales where she created a new homestead on a tight budget, on just under half an acre. This was filmed by the BBC for *Gardeners' World* in 2022.

Known for her practical, enthusiastic, and down-to-earth approach, Stephanie runs courses and webinars from her homestead and internationally, with regular updates from the plot on her website, Substack newsletter, YouTube, and Instagram.

The author of two best-selling books, Stephanie has contributed to several others. She is a regular feature writer for national and international publications.

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